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Aesthetics in Schoolhouse Design

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Schoolhouse architecture considered from the aesthetic point of view has long since emerged from the chrysalis stage of the Civil War period and, passing through a succession of phases, has developed a series of present-day buildings of which many are pleasing and well proportioned and some are impressive and monumental, but comparatively few are genuinely artistic. As a race, Americans are rather prone to indulge in self-praise and call upon the world to witness their achievements, but it is a fair question whether all of our present-day architecture deserves the commendation it receives.

As a matter of fact, the progress made in American schoolhouse architecture is not at all to be despised. The ugly and dangerous buildings of the sixties and seventies gave way to the "Queen Anne" or "hard pine" type of the eighties, just as dangerous from fire and only slightly less ugly, with their badly proportioned gables and meaningless ornament. Glimmerings of sanity began to appear in the nineties, when a good many schoolhouses were built which still convey an impression of dignity and stability, sometimes superior to those of the flat-roofed packing-box period which followed.

Standardization and Packing Box Schools

The area of standardization began in the first decade of the new century. Sloping roofs were discarded, blank end walls became mandatory, auditoriums came down from the attic to the first floor, and by 1910 the packing-case type had developed in all its bulky glory, and to a great extent was implicitly followed, no matter whether the school stood in a closely built city or in a neighborhood of scattered suburban homes.

Since the war a new spirit has been coming over schoolhouse design. The one-story type has been given a good try-out; auditoriums and gymnasiums have been integrated and then separated; the pitch roof is gingerly edging its way back into favor, but best of all is the evident attempt to bring the building approximately into the scale of its surroundings so as to harmonize with them as well as it possibly can.

The era of standardization, which for a time came perilously near meaning stagnation, seems to be over. The desire to pile the building high in the air, four or even five

stories, has passed, and the tendency is now all toward quiet horizontal lines and masses, broken in the larger buildings by towers and in the smaller by carrying certain sections only above the general skyline.

The Next Step Forward?

So much has been gained; the next step forward ought to be a genuine heart-searching among architects and committees looking toward an effort for genuine artistic progress in schoolhouse architecture. No nobler field for effort exists for an architect than to design a public school building, but unhappily such an opportunity, which ought to be regarded as almost sacred, is too often treated just as a "job", and the plans are put through the office dressed up with stock dentils, consols, or Gothic features, provided of course any ornament at all is allowed, copied by draughtsmen from books of details without much regard for anything beyond the easiest way to get it done. When more ornament is allowed, often more harm than good results; witness for example, the well-known mediaeval Gothic hammer-beam assembly hall trusses formed at vast expense in plaster and wire lath and then grained or "antiqued" to simulate wood; imitation travertine corridors made of papery material which begins to peel off the walls as soon as the building has been turned over to the school board, and the imitation battlements, often unflashed and unprotected from frost, which top out the "collegiate" walls and towers. If truth has any place at all in architecture, certainly it belongs

in the place where the rising generation have to look at it. America as a nation is passing through an era of education without sufficient cultivation, of learning *about* art as an historical subject without learning to appreciate its present-day application, and this phase of its growth is quite as apparent in our general architecture as well as that of our school buildings.

It is easier to generalize and point out errors in existing work than to make constructive suggestions; nevertheless no harm can be done by a frank discussion of how to improve present-day schoolhouse architecture, and in the hope of starting a discussion I venture to make a few general suggestions.

The Roof and Walls

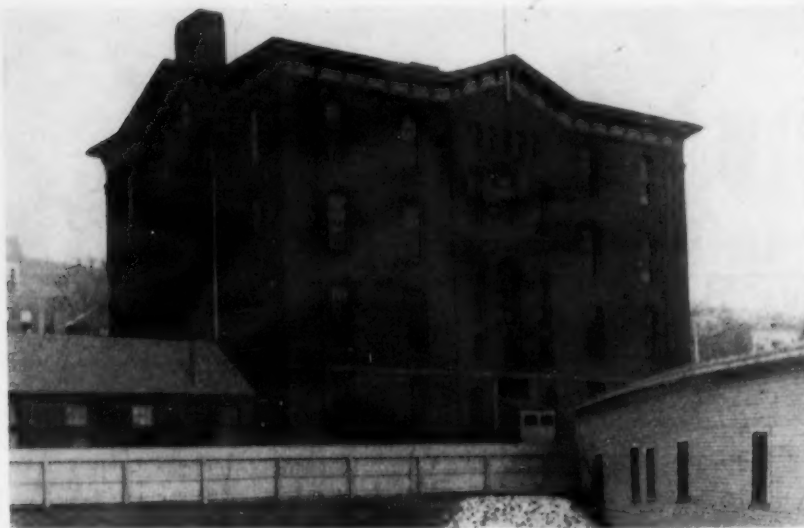
The main consideration, I should say, would be the question of the mass and skyline of the building relative to its surroundings, which are generally of the residential or suburban type. And the first big question is the roof. Flat roofs, of course, are easier to build. When drained inside they do not grow a hirsute adornment in the shape of icicles in winter, nor do they have exterior rain leaders which fill up with leaves and trash in summer. You can get out on them easily when necessary and hunt for leaks. But they certainly do not mass well with cottage roofs, and for a residential district they are in the class with a factory so far as picturesqueness is concerned. On the other hand, the more picturesque pitched roof is likely to create an enormous and useless garret; and

valleys, exterior rain troughs and leaders, and snow slides constitute an imposing array of objections. Nevertheless, these obstacles can be overcome "if the committee is willing" especially if the building is to be of moderate size, and the community is sure to appreciate the result.

Another point of study is the question of the blank end walls. Nothing seems so absurd to the layman as this deliberate exclusion of light, the last by-product of what may be called the period of standardization. "When daylight is the only thing on which the price hasn't gone up" they say, "why do you cut it out?" Certainly the sudden transitions from a wall which is all windows one minute, as a distinguished critic



WYMAN SCHOOL, WINCHESTER, MASS. Kilham, Hopkins & Greeley, Architects, Boston, Mass.
(The pitch-roof type in a high-class residential neighborhood.)



A BOSTON SCHOOLHOUSE OF ABOUT 1870.



A NEW ENGLAND SCHOOLHOUSE OF ABOUT 1880.

has said, and all blank wall the next is getting on about everyone's nerves. So long as these blind classroom ends are obligatory, the architect will have to get along by placing dressing rooms or toilets or something of that sort at the end of the rows of classrooms; but when the age of movable furniture and noiseless floors has supplanted the present fixed position period, corner rooms can have daylight and sun on two sides (and maybe cross ventilation, too, when the cooked-air theory has also worn itself out!)

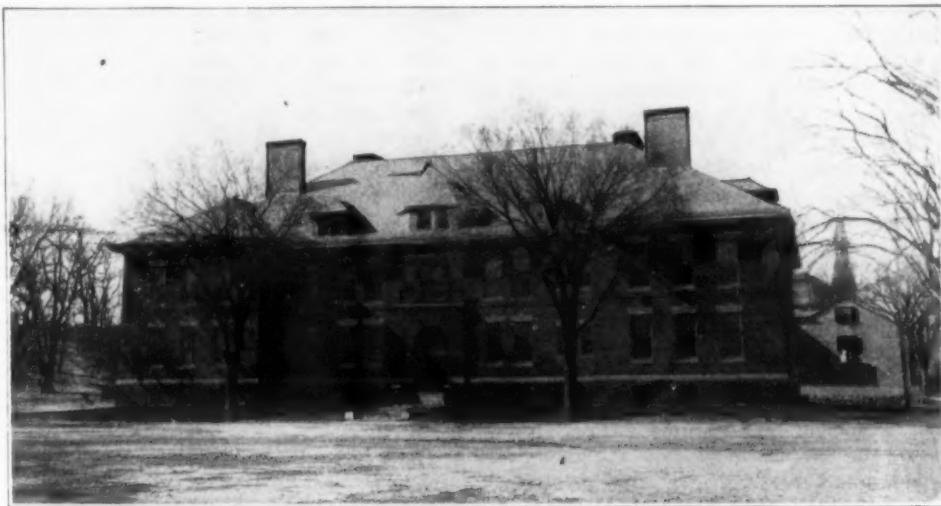
It is probably not necessary to say anything more here about the quadrangle type of plan which I have several times publicly advocated. Its advantages over the solid block type are so apparent that its general adoption is only a question of time. The Edward Devotion School at Brookline, Mass. (see illustration) is an example of the attractiveness of this sort of grouping for a large elementary school, particularly in a northern climate where the spacious and sheltered court is of great value for out-of-door exercise in winter.

Precedents vs. True Art

In such a country as ours, where the well known melting pot situation extends not only to racial conditions but into the field of art as well, where conviction, whether in religion, politics or art may be said not to exist with any degree of unanimity, and where no tradition or standard of art is to be found, we are likely to follow old world precedent in architectural detail for quite a time to come. In the older parts of the country, as New England for example, there is an atmosphere of Colonial or

"Early American" style, which when well treated has the great merit of appearing appropriate and indigenous to the soil in a way which Gothic architecture, especially of the red-and-white kind, can never attain and pending a further art awakening of our people, I think that is the best solution for those sections. In

is wide open. It would be a wonderful thing if in these sections so free from hampering local precedent, the copying of outworn European styles could give place to a free development of American motifs, based either on aboriginal North American decorative types, or what would be better, logical outgrowths of construc-

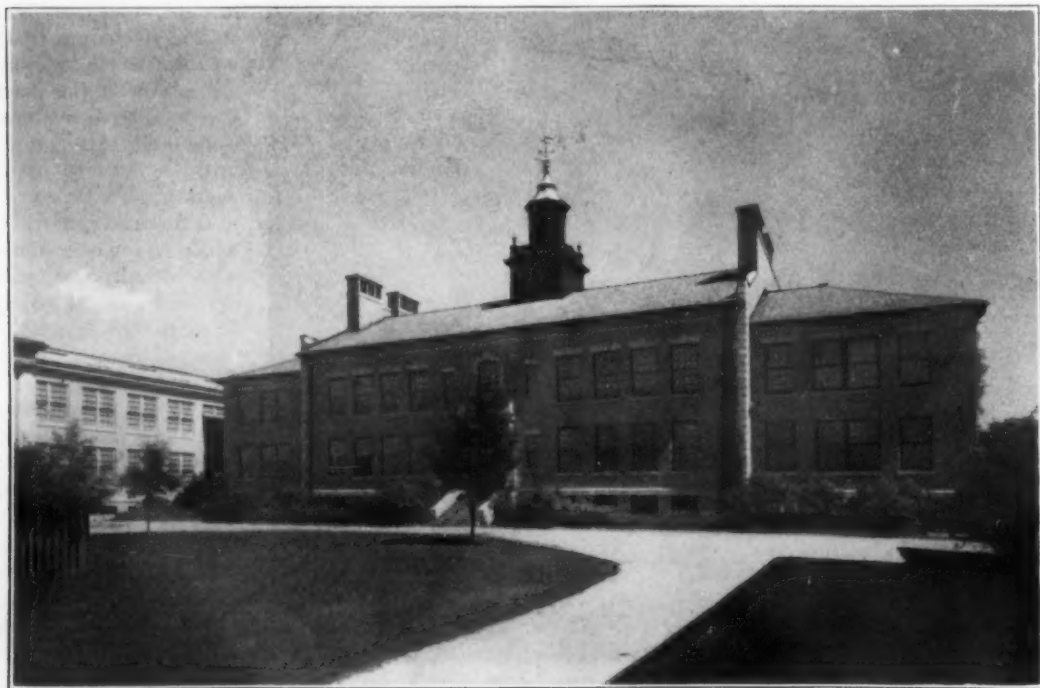


THE HARDIE SCHOOL, BEVERLY, MASS. BUILT IN 1898.

a similar sense Spanish or Creole types are particularly appropriate to those states which owed their early development to those races. But for most sections of the country Early American is no more of a native style than Romanesque and, so far as local tradition goes, the field

tive requirements, something carried farther perhaps than the admirable modern factory designs, but along the same truthful and reasonable lines, allowing free rein to the imagination for ornament and architectural requirements of light and shadow.

This may seem to some to be idle talk and chimerical reasoning. I might think so myself if I did not see it actually developing here and there in unexpected and often charming forms. I am not holding any brief for an unlicensed orgie of futurism; any architecture to be really good must follow the lamps of truth, proportion, and adaptability; but by the same token the art of architecture was never meant to stand still. Last summer I walked with a distinguished French architect through the streets of the Paris Exposition. As we passed through the heterogeneous collections of plaster buildings, we remarked that many seemed to show in their design a striving for originality at any cost, even a sacrifice of all the principles of the art. Others impressed us as the work of calm and resolute minds, resourceful, independent, and often brilliant. We noted the novel and striking uses of such materials as glass. As we passed out of the northern gate, the huge mass of the Grand Palais rose on our left, its great colonnade hung with the heavy stone ornaments of the pre-war Beaux Arts period. We noted the tortured friezes, the apparently collapsible pedestals for the columns, and the facades overloaded with stone drapery. The same remark came simultaneously from both of us, "How



EDWARD DEVOTION SCHOOL, BROOKLINE, MASS. Kilham, Hopkins & Greeley, Architects, Boston, Mass. (Pitch-roof type in Colonial style with quadrangle plan located in a residential neighborhood. Note the spacious and sheltered quadrangle available for play court.)

(Concluded on Page 164)

How to Choose an Architect¹

J. C. Llewellyn, A. I. A., Chicago, Ill.

In discussing the question of choice of an architect, I am mindful of the fact that under modern conditions the choice very often depends on the salesmanship of the architect or his representative quite as much as upon careful investigation of the architect's ability, integrity, and experience.

Architecture, ranking as a profession, is considered by a large number of its membership a business, and when it comes to the matter of securing commissions, has taken on the ways to a very large extent of modern business. Advertising is no longer wholly taboo, but is recognized by architectural societies to a certain extent, and is practiced in various forms by many firms. Competitive and gratuitous sketches, except in form of a regulated competition, are not favored by architectural organizations, yet in spite of this disfavor beautifully prepared perspectives and plans, constituting an appeal for favorable consideration through the sense of vision, are freely offered by many architects. There is good reason in this, for the image of what is seen is retained longer than what is heard, as a rule. Friendships enter into the matter. Politics sometimes take a hand. These and other means developed by the ingenuity of the architect are all used to influence the choice of the architect, whether the owner be an individual, a corporation, or a board of education. The unfortunate fact is that the average understanding of an architect's service is that he makes pictures and plans, and beyond this his service is but little understood, if at all.

These matters are mentioned because they exist and are potent influences, although they have but little relation to the architect's real ability and often to the building proposed. Just how far the architect will sink the professional and resort to the same methods used by merchants and manufacturers in selling commodities, must be determined by himself.

Architecture: Both Business and Profession

I believe that the practice of architecture is both a profession and a business, and to a large extent in the conduct of an architect's work a knowledge of building methods, of materials, and of business transactions is absolutely necessary to the rendering of a complete service by the architect.

Architecture is a profession in that it is an art and that the service rendered is a personal service, even though in the preparation of drawings as a means of rendering that service several assistants may be employed. The architect must, however, be the guiding spirit and his assistants must be trained to carry out his wishes in the matter.

The practice of architecture is a business because the final result from his professional work is a building produced by assembling many materials through the medium of many trades, and the contracts entered into and supervision necessary to assemble these trades are recognized as business transactions.

There is a difference of opinion among architects as to where the professional stops and the business begins, and as to how much of the business of building, aside from contracting, the architect should assume and how much he should transfer to others. Many architects stress the element of design and some disclaim any necessity for knowing anything about construction or the business of building. The appeal of these architects is through the eye. Other architects believe that consistent design demands a knowledge of building construction and that construction must be considered in

making preliminary sketches in order that when fully developed the resulting building will be of sane and economical construction, and that the architect must, to a very large degree, supervise and plan the constructive features as well as the purely architectural features of the building, and without disregarding design and appearance, appeal to common sense as well.

Five Items of Service

Accepting the conditions as they are, and without quarrelling with them, let us discuss the work of an architect and the service he should render. To guide us in this discussion, I list five items which I feel are worth considering.

1. Preliminary work and developing the plan.
2. Attention to design for beauty.
3. Preparation of drawings, specifications, etc., or work prior to letting contracts.
4. Business of taking estimates, letting contracts, payments, etc.
5. Experience.

First, Preliminary Work and Developing the Plan: The place to begin in designing a building is not with the elevations or a perspective but with the floor arrangements or plan. In the case of schools, the superintendent must have a large influence in the working out of any plan because of the characteristics special to his community, for which accommodation should be provided, in addition to provision for studies common to all schools. No two communities are alike, and communities must be studied with these varying characteristics in mind in order to build a building and a school which will develop that community to its fullest extent. For this information the superintendent is usually the source of supply, and he, with the aid of assistance from educational experts or such others as he may desire to employ, will provide the list of requirements which will be the basis of the architect's work.

The architect must be in sympathy with what is being done, must develop his sketch plans in order to provide the various accommodations desired, must recognize thoroughly these differences, and be sufficiently well posted on educational procedure and upon building to work in thorough cooperation and accord with the school officials. The architect out of his experience and his contact with various communities, and with various educators and school officials, is in position to make suggestions for consideration, and from the discussion growing out of these suggestions will come something worth-while and applicable to the community in question.

The architect must keep in mind and make provision for future extensions to accommodate growth of the district, must provide a flexibility in his buildings by which rooms may be enlarged or divided into smaller rooms, must keep in mind the suiting of rooms, circulation, and easy administration. These things are not new or novel, but have had the consideration of experienced school architects and have been incorporated in their plans for years, though the manner of their accomplishment may not have developed into special systems of construction. The architect in his planning will keep in mind the avoidance of structural errors and extravagance, the provision for installation of equipment, and other items which have an influence on construction.

Good Plan is Essential

The first element of economy in building lies in a proper development of the plan. Likewise, the value of a building for school purposes lies in the attention given to plan and the accommo-

dation provided for instruction and student welfare. Hence, one of the first essentials in the choice of an architect is his ability to thoroughly cooperate with school officials to produce a sane and economical building for school purposes. Sanity and economy are strangers to a great many school buildings today. By sanity I mean adaptability to purpose with sufficient accommodations for all departments rather than emphasizing one feature and disregarding others; and by economy I do not mean parsimony, a watching of pennies while losing dollars, but good materials and permanent construction without waste or extravagance.

Second, Attention to Design for Beauty: Plans developed under the cooperation mentioned will lend themselves more often than not to good exterior design, for while studying the plan and adapting it to requirements, the matter of symmetry, good massing, and logical construction have been kept in mind by the competent architect and developed as well.

Architects will differ in their understanding of good design. Good proportions, good massing of the various parts, and restraint as to ornamentation are the dominant elements in the opinion of many, while others will rely on and use ornamentation in a much larger way.

Beauty is to be desired always, and the ability of an architect to produce attractive buildings is desirable and should be considered in choosing him for any project; but this ability should be judged by seeing existing buildings, for beautiful perspectives do not always materialize in attractive buildings. The architect's palette in the final analysis is composed of materials and not water colors, and while the lines of the perspective may be reproduced in the building, the general effect very often is not.

The Economy of Complete Plans

Third, Preparation of Drawings, Specifications, etc.: With the sketch plans and designs determined upon, an architect's service begins to take on business characteristics, comprising the preparation of working drawings, details, and specifications as a means of rendering the service for which he is employed, and to advise contractors what is demanded of them. The work involved in this preparation is not even suspected by clients, must less understood, yet upon the thoroughness of this preparation lies much of the architect's success or failure. A blueprint is always a blueprint, but what that blueprint tells to the contractor who is estimating and doing the work of building, is another matter. No one is so capable of judging the value of an architect's service as the contractor, and no one appraises that service in cash as he does. If the drawings are complete, showing fully all construction details, specifying clearly materials, and are prepared so that various trades can be coordinated without difficulty, that fact is appraised in cash by the elimination of allowances for contingencies and later by elimination of extras. If, on the contrary, drawings are poorly prepared, the amount for contingencies is added and extras occur. Careful preparation brings dividends to the owner and minimizes trouble in construction for the architect.

Drawings should be so prepared also as to permit of a separation of the trades into separate contracts, and the work so let, if economy can be served, and for other very good and sufficient reasons.

Architect's Control of All Elements

A real investigation of an architect's ability will take into consideration his experience in handling work, from the construction side, and

¹Read before the Department of School Administration, N. E. A., Indianapolis, June 29, 1925.

his ability to eliminate this contingent element in building. The preparation of drawings includes the work of structural and mechanical engineers who should be a part of the architect's organization or trained in the ways of his office. In either case, the architect must control and coordinate these different elements and cannot, with any assurance of success, delegate these branches, as is sometimes done, to engineering salesmen for materials or to contracting concerns to work out and submit their own designs with their bids. Delegation of any of this work of preparation of working drawings to other concerns such as I have mentioned, results in less labor and less cost to the architect, and may be reflected in the amount of commission asked, but any reduction will cost the owner in much larger form in the contract price. No architect, valuing his reputation, will turn over the preparation of any of his drawings to contractors or material men interested in selling material or in securing contracts on his work. In all of the preparatory work of drawings, specifications, and details, the architect must be the controlling spirit. His record in this regard cannot be ignored.

Fourth, Business of Taking Estimates, Letting Contracts, etc.: An architect's service includes the safeguarding of the owner's interest in awarding and preparing contracts, in making payments, in supervision and work of construction, in keeping a careful record of all transactions from day to day, as the work goes along. The architect must be able to value the work as erected and keep a safe balance in certifying payments, and should be able, in case of any default on the part of contractors, to take over the work and conduct it to a successful conclusion without material loss to the owners. These items are matters of business and are better understood than other items of the architect's service, and are worthy of consideration in choosing an architect.

Fifth, Experience: The source out of which the four items just discussed develop is experience. The extent of that experience depends upon the architect's opportunities, his source of information, and the uses made of these opportunities. That experience will be reflected in his buildings and the handling of his work. In work as complicated as the best school work is, the experience of the architect under consideration can be investigated with profit to the owner about to build.

The work outlined in the five items constitutes the main features of the architect's service. Whether the service is rendered by an individual or an organization, the architect must dominate the whole and coordinate the various elements into a unit as to policy and purposes.

A Suggestion to School Boards

And now a word about owners—in particular boards of education and school officials who have the responsibility of providing accommodations and conducting the schools. In an experience running over several years, I have met various boards, with members from many lines of occupation (ministers, doctors, lawyers, merchants, bankers, mechanics and others), and in these various members I have seen those who were dominated by, and have thought in terms of some single feature in the problem or some department, rather than a desire to secure a well thought out scheme comprising all departments. Other members have discussed the matter in a broad way and wanted information, which they had a right to get, on many subjects and have kept in mind the general result.

I have known boards who consulted with and worked in harmony with their superintendent, and I have seen boards who have ignored the superintendent entirely in their building programs. I have met many superintendents, keen and thoroughly alive to the needs of their com-

munity, and I have met those who could not read blueprints nor visualize the building proposed in those blueprints. But in nearly all these instances I feel these board members and officials have been sincere in their efforts to serve their communities well. A few exceptions to this rule have occurred, due to a variety of causes which need not be mentioned and which I leave to your imagination. But these instances have been extremely rare, and my relations with the boards and school officials have been very pleasant.

The choice of an architect will depend very much upon the desires of the owner and what is dominant in his mind. If the major consideration is to build a beautiful building without much regard to anything else, the result can be quite correctly forecast; the architectural salesman who can most completely fill the eye will be the winner. If the owner, owing to lack of understanding of the architect's work, is inclined to bargain as in a business transaction, the size of commission asked will have great weight. But, if the owner has in mind a building suited to a purpose with the proper attention to the design, for appearance and sane construction, with the business of contracts and payments, supervision, etc., well taken care of, and value received for money expended, a real effort to choose an architect seems probable.

A Recommendation

Now how can you go about it all? I recommend that you spend some time and money in seeing buildings of architects you are considering but independently of the architects, and take your superintendent with you. The buildings and appointments will show for themselves. You will know at once whether the buildings you see are acceptable as to exterior design, and know it far better than from any pictured representation of the building or proposed building. See the active members of the boards of education you visit, and find out from them how their work has been handled from the standpoint of contracting, supervision, and business capacity

to care for the owner's interests, and learn the cost and the accommodation given. In the meantime, your superintendent can find out the architect's ability to cooperate fully with the school administration during preparation of plans and how the buildings work out as to accommodation and ease of administration, provision for extension, etc. After this kind of an investigation, make your choice, keeping in mind the result you wish to obtain—a building constructed for school purposes providing for all requirements in a sane and attractive way without disregarding the economy so essential in these days of large demands and high costs.

I have talked sanity and economy with beauty in building. I can see no reason why good design and economy cannot go together. The fact that a building is sane and economical does not of necessity say that it shall be ugly, nor does it follow that a beautiful building cannot be sane and economical. I have emphasized sane and economical building because I believe it necessary. Many districts I know are unable to finance the buildings they badly need and others have mortgaged the future beyond their legitimate bonding capacity for amounts which will require several years to pay up. In the meantime school demands increase and additional accommodations are needed, with no funds to meet the demand. Sanity and economy will help; wise administration will help; and it should be the aim of architects and administrators to give time to the matter of maximum space and use of the buildings. Under present building costs and conditions you can look for little help. It is up to the architects and schoolmen to eliminate extravagance (even though it be in the name of beauty) and waste to get greater use of the buildings, and hence my attitude in the matter and my plea for sanity and economy today for the interest of the present and future. Consider sanity and economy with beauty for sanity, economy, and beauty can dwell as friends in the same structure.

School Building Programs 1925-1926

Summaries of Activities in 197 Cities

ALABAMA

BIRMINGHAM, ALA.—A total of \$3,500,000 was voted in May, 1924, for school building construction. The estimated amount involved in present schoolhouse construction is \$2,175,000, with \$1,325,000 for new construction to be started during the year 1926.

MOBILE, ALA.—The estimated total amount involved in schoolhouse construction now in progress for the year 1925-1926 is \$750,000.

MONTGOMERY, ALA.—The total amount available for the present school building program is \$1,000,000, with the amount now involved in schoolhouse construction set at \$110,000. No new construction work has been planned as yet for the year 1926.

ARKANSAS

FORT SMITH, ARK.—No building program has been planned as yet and no new construction work has been contemplated for the year 1926.

CALIFORNIA

ALAMEDA, CALIF.—No bond issue is planned for the year 1926. A bond issue for \$750,000 was passed in 1923: one for \$250,000 in 1924, and one for \$375,000 in 1925.

FRESNO, CALIF.—A bond issue of \$1,800,000 was voted in November last, and new construction work for the year 1926 will require an expenditure of about \$600,000. The estimated total amount of current construction is \$60,000.

LONG BEACH, CALIF.—The total amount involved in the present building program is \$5,000,000. No new construction work is planned for 1926. The estimated total amount now involved in current construction is \$1,042,142.

LOS ANGELES, CALIF.—During the winter and spring of 1924, the school district completed the expenditure of a bond issue amounting to \$17,600,000 for the erection of new buildings, land and equipment. The district was later confronted with another serious housing problem and it became necessary to have another bond issue. The amount was fixed at \$34,600,000 and the election took place in June, 1924. Since the money first became available in November, 1924, one or more contracts have been let each week for school buildings ranging from \$50,000 to \$600,000 each. School building work completed since July 1, 1925, had a total value of \$2,302,564, while school buildings at present in course of construction cost a total of \$6,861,180. New construction work to be started

during the year 1925-1926 will reach an expenditure of \$8,776,920.

OAKLAND, CALIF.—The schools have a bond issue of \$9,600,000, with school construction now in progress amounting to \$1,268,000. The amount of building work planned for the year 1926 is approximately \$1,700,000.

PASADENA, CALIF.—The total amount involved in the present building program is approximately \$3,000,000. The total amount of new construction to be started in 1926 is \$447,500, to be divided between one junior high school, one senior high school, two elementary schools and an administration building. The estimated amount of schoolhouse construction now under way is \$1,844,239.

SAN DIEGO, CALIF.—The school district has just completed a building program involving an expenditure of approximately \$2,000,000. The estimated total amount of schoolhouse construction now in progress is \$400,000.

SAN FRANCISCO, CALIF.—The total amount of the present building program is \$13,375,000, of which \$2,630,000 represent the cost of school sites. The cost of buildings now under construction is \$4,734,000. The building program will continue through the year 1926 and will involve the erection of school buildings to cost \$4,900,000.

SAN JOSE, CALIF.—The school district has just completed the expenditure of \$950,000 for lands, buildings and equipment for two junior high schools. No new construction is contemplated for the year 1926.

STOCKTON, CALIF.—The school district during the past summer completed a building program involving an expenditure of one and one-quarter million dollars. No new construction work is planned for at least two years.

COLORADO

DENVER, COLO.—The total amount of the present school building program is \$8,750,000, while the total amount involved in present schoolhouse construction is \$2,750,000. New construction work to be started during 1926 will probably reach an expenditure of \$300,000.

PUEBLO, COLO.—The total amount of the school building program is \$800,000, with the total amount involved in present schoolhouse construction estimated at \$75,000. No new construction is planned

(Continued on Page 94)

The New Senior High School- Junior College at Wichita Falls, Texas

William B. Ittner, Architect, and Dr. J. W. Cantwell, Superintendent of Schools

When a community doubles its population within a decade, the public school is more than likely to be the first civic institution to feel the consequences. But in the case of such increase as fell to the lot of Wichita Falls, Texas, in the ten years prior to the census of 1920—a growth of from 8,000 to 52,000—the greatest foresight is needed to provide adequate educational facilities on which, in the last analysis, all substantial growth must rest.

That this burgeoning community has kept itself abreast of the great onward movement in public education, is evidenced by the enthusiasm with which every stratum of society joined in the project of erecting and equipping the new junior college building. The story of this high school-college is an index to the community spirit which is building up a significant cultural and commercial center of the future. The new building, which is modern to the last detail, affords accommodation for the three upper years of high school, and the first and second years of college, the college courses being coordinate with those of the University of Texas. The plan of combining senior high school with junior college was inaugurated by Superintendent Lee Clark and his board of education in 1921-22. The school was completed and its educational program developed during the present administration.

The Building—Its Architecture

The exterior design of the Wichita Falls school is characterized by dignity, repose, strength, with accent notes of classical detail. Its beauty is to be found in the symmetry and nobility of its mass, its directness and simplicity. Its charm, a quality not usually found in austere public buildings, may be traced to the broken color and pattern of the brick work, by means of which the architect has achieved a rich and varied texture. The dominating central entrance is of limestone, terminating in the columns of arched windows and an open parapet. The flanking decorative panels in the projecting wings serve, by contrast, to enhance the beauty of the varicolored brick.

The time has gone by when communities are content with efficiency and economy alone, in their schools. It has been demonstrated that a beautiful building calls for no additional expense. Architectural beauty is not a matter of superadded ornament, but rather the reverse. A world-wide knowledge of precedent, together with the ability to adapt past achievement to the needs of the modern American school, this is the necessary equipment of the architect who would combine beauty with economy and effi-



AUDITORIUM (SEATING CAPACITY 1500), WICHITA FALLS JUNIOR COLLEGE, WICHITA FALLS, TEXAS.
William B. Ittner, Architect, St. Louis, Mo.

ciency. When it is considered that an attractive building need cost no more than an ugly one, we are constrained to ask why there are not more beautiful school buildings. Even today, hundreds of schools are being erected that are as archaic in design and as barren of charm as those of the old Quincy and Lancasterian school periods.

The interior decoration of the Wichita Falls junior college is as simple and restrained as is its exterior treatment. Some idea of the interior handling is revealed by the illustrations of auditorium, library, etc. In every instance, adaptability to use has been given first consideration, whether mat brick or glazed tile were demanded; but always the satisfying effect to the eye has been kept in mind. The gymnasium and the well equipped shop for manual training are fittingly austere. On the other hand, the rooms devoted to the teaching of home economics are calculated to set a high standard of combined beauty and economy for the future home makers of Texas.

One of the most important features of the junior college is its extensive art collection, for which a fitting background had to be provided. Within six months after completion, the school

was a veritable museum. Private individuals vied with civic organizations in bringing to the school a wealth of suitable art objects. Never in the history of public school building has there been manifest a greater enthusiasm for beauty, a more spontaneous spirit of coordination for the achieving of a supreme effect, than that which was and still is evidenced by Wichita Falls.

The functioning agency in this emphasis-on-beauty movement is the local art committee, working in cooperation with the superintendent of schools. The actual work of the committee has been of an advisory nature, in that it has concentered and organized a wide range of scattered efforts, assisted in making selections, and directed the final distribution and installation. The approximate cost of paintings and statuary already donated is \$20,000. There are twelve original oil paintings by American artists; ten reproductions of famous pictures, one large mural decoration; several marble and bronze originals, in addition to an extensive collection of casts of the classic sculptures from Athens and Rome; a beautiful Rookwood fountain with finishings; twelve Galloway pottery urns, and an exhibition case of Rookwood pottery. To this list may be added, fittingly, a concert grand piano, and a pipe organ—the latter to be installed in the near future.

The Site

The junior college occupies a commanding site, with thirteen acres of ground for its frontage of 700 feet, and approximately eight acres for athletic purposes at the rear.

The Building Plan

The real test of a successful school plant lies in the service efficiency of the building plan, viz.: its adaptability to instruction purposes, the diversification of educational facilities to serve the educational program, the correct arrangement and correlation of instruction quarters and, of paramount importance, its provision for circulation, lighting, heating and ventilation.

The pupil capacity of the Wichita Falls school is 1,500. The total cost, without equipment, is \$550,000, giving a per pupil cost of \$366.66. A recapitulation of the educational facilities follows:



CAFETERIA, WICHITA FALLS JUNIOR COLLEGE, WICHITA FALLS, TEXAS.
(More than a thousand students are fed here daily.)

- 2 Standard gymnasiums.
- 1 Open-air gymnasium on roof.
- 24 Normal-sized classrooms.
- 1 Library (with two work and conference rooms).
- 2 Study rooms.
- 4 Science laboratories, with conservatory and work rooms.
- 2 Art rooms.
- 3 Commercial rooms.
- 4 Home-making laboratories for girls, with model apartment.
- 1 Music and lecture room.
- 1 Auditorium.
- 1 Cafeteria, with separate dining room.
- 7 Administration rooms.

The auditorium, with a seating capacity of 1,500, includes a gymnasium-stage. The girls' gymnasium, on the same level, is separated by a soundproof folding partition. This makes possible the expansion of the stage to the full width of the gymnasium.

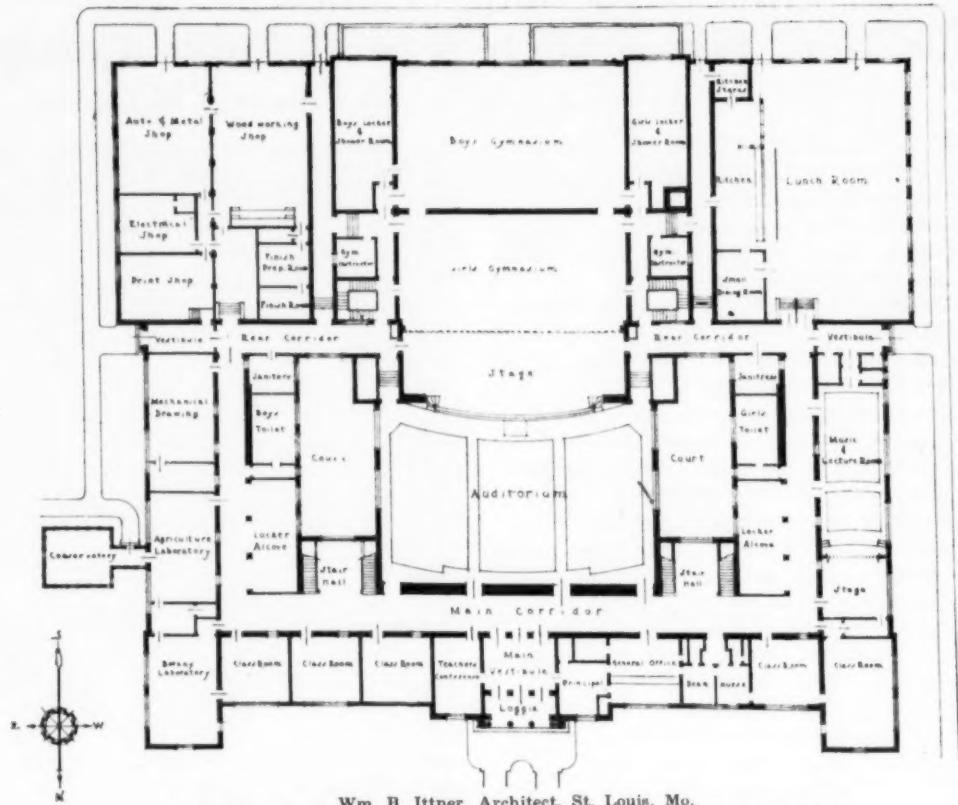
The library study group is unusually complete, and is noteworthy in its interior treatment. The main room of the library accommodates 72 pupils. It is provided with a work room for the librarian, and a conference room for small groups of students working on special problems. At the two sides of the library are study rooms, each with a capacity of 100. Thus the three main rooms afford accommodations for 272 pupils per period, which ought to constitute ample facilities for a 1,500 pupil school. The library has been endowed by two wealthy citizens. It can, therefore, be maintained indefinitely as a progressive circulating library.

The art corridor, for exhibition purposes, is located adjacent to the art rooms. A plan of correlation with the print shop has been developed. A music and speaking room, with seating capacity for 120, includes a model stage

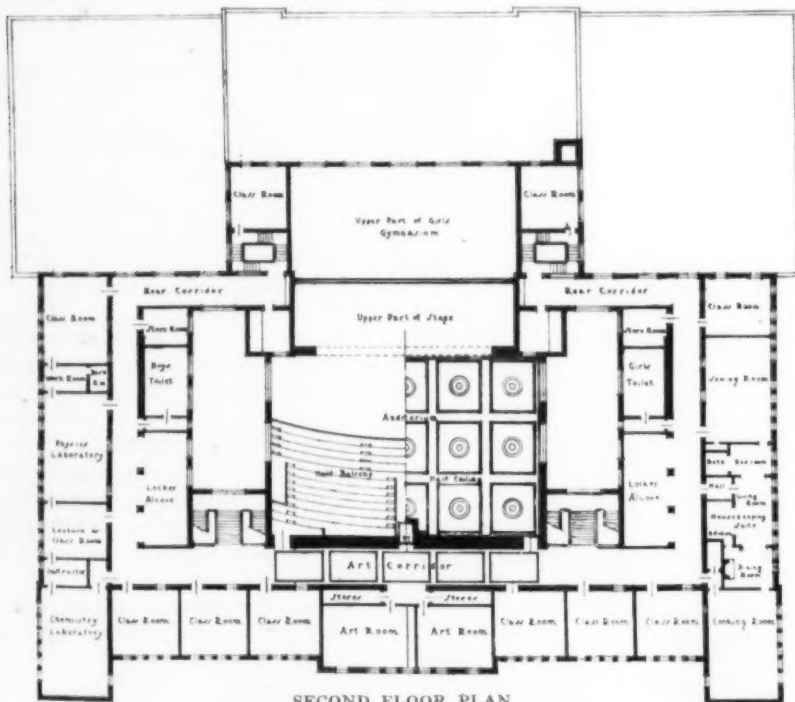
and is equipped for visual instruction. It can, on occasion, be used as a small auditorium. An extra entrance from one of the side vestibules renders it convenient for use by the community. The cafeteria will nominally accommodate 500 tables. It is planned to function with the auditorium and gymnasium. Its location, on the

ground floor, and its direct outside entrances add to its convenience for out-of-school uses. A separate dining room adjoins the cafeteria kitchen.

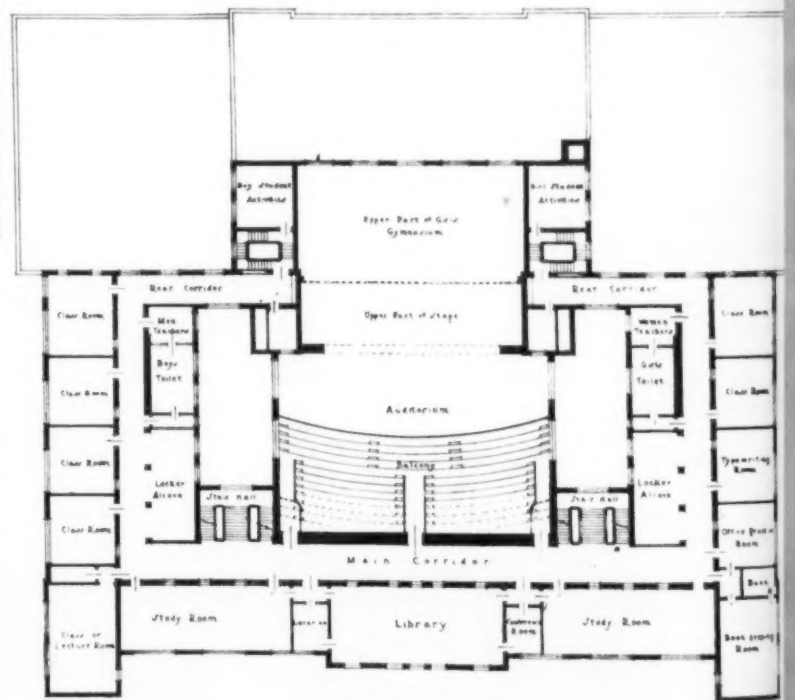
From this outline it may be seen that the Wichita Falls junior college is not merely an educational institution. It is a civic nucleus around which the culture of northern Texas is destined to grow.



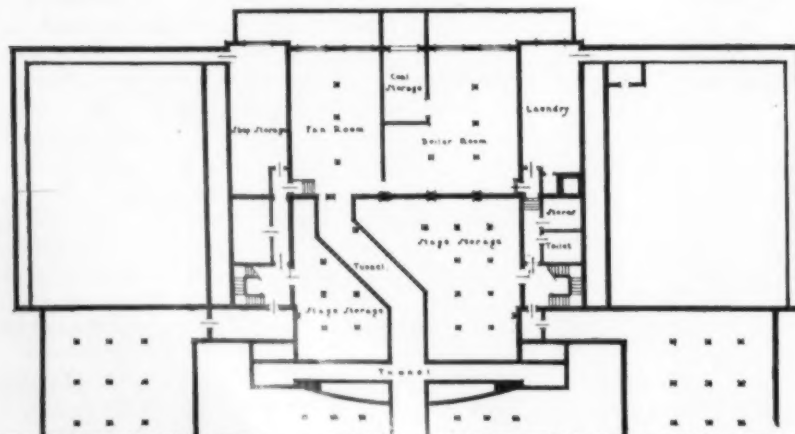
Wm. B. Ittner, Architect, St. Louis, Mo.
GROUND FLOOR PLAN, JUNIOR COLLEGE, WICHITA FALLS, TEXAS.
Voelcker & Dixon, Associate Architects, Wichita Falls, Texas.



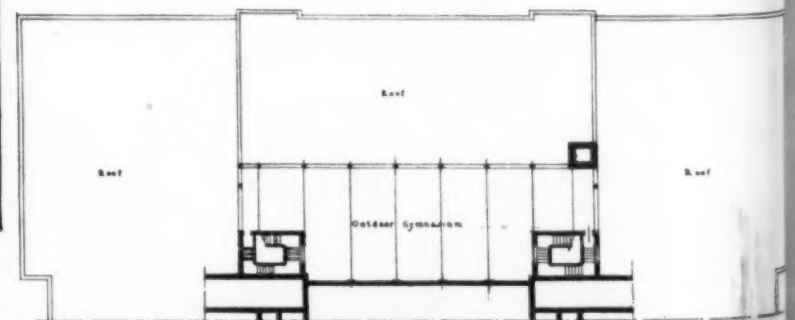
SECOND FLOOR PLAN.



FIRST FLOOR PLAN.



BOILER ROOM FLOOR PLAN.



ROOF AND GYMNASIUM FLOOR PLAN.

FLOOR PLANS OF THE JUNIOR COLLEGE, WICHITA FALLS, TEXAS.
Wm. B. Ittner, Architect, St. Louis, Mo. Voelcker & Dixon, Associate Architects, Wichita Falls, Texas.

Cooperative School Building Survey in a Small City

Dr. C. M. Reinoehl, Department of School Administration, University of Arkansas

A cooperative plan for determining scientifically the school building needs in a small city was developed by a group of students in the University of Arkansas investigating problems in school administration during the school year of 1924-1925. The group was impressed with the fact that there are many school buildings which are crowded beyond reasonable capacity and that necessary funds to meet the cost of buildings to satisfy immediate needs are not easily secured in some communities. These facts appeared applicable to the University city of Fayetteville. The local community was, therefore, used as a laboratory for working out the plan and carrying the group project to completion. It is an easy matter to adapt the plan for use in any smaller city. This is a report on the details of the plan.

The Problem

By what cooperative plan may the exact school building needs in a small city be scientifically determined?

Several minor problems are naturally suggested. It is assumed that the solution of the problem be undertaken by persons residing within the local community, but who shall participate in the building survey and how may cooperative effort be organized for effective work? In what ways may teachers, pupils and others connected with the schools be used to advantage in the survey? What duties shall each perform? What facts about the schools and the community are needed to solve the problem? What building program is naturally suggested by the facts? What factors determine the last steps to be taken in solving? What program shall be recommended for approval? How may general acceptance of this program be secured?

Preliminary Plans

The first step in the solution of the problem is to determine what information is needed. It was found that the facts most valuable in solving grouped themselves around four leading topics.

Population Facts. It is necessary to know something about the growth of population and its relation to school enrollment. The size and location of buildings is influenced by the distribution of population and direction of growth in the city. Facts about school census and enrollment for several years past are needed to estimate the building space required in the future.

School Plant. Many things must be known about the present school buildings—their number, size, relative location, capacity, condition, adequacy, and other factors influencing the solution of the problem.

Curriculum Needs. A valuable and necessary addition to the facts that should be known, have to do with the present course of study, the subjects taught and their relation to subjects that should be taught in accordance with present standards.

Financial Aspects. A comparative study of the city's financial condition and of future possibilities for securing school funds must be made before any school building program can be fully and intelligently determined or its acceptance secured. The city's ability to pay is a problem of vital importance.

Another step in the preliminary plans consists in organizing the workers for collecting the necessary information. The natural and logical director of the survey within the school system is the city superintendent; however, some other wise and enterprising local leader may be chosen

as director. A committee of teachers, perhaps one from each school, may constitute the survey staff. To this may be added a few representative citizens, perhaps officials in certain school or community organizations. For each building there should be a sub-committee of teachers to collect and submit information from the ward school district or immediate section of the city. The help of older pupils may be utilized in collecting data by a house to house canvass. A few preliminary meetings of all the principal workers are needed to organize a working body and perfect plans for conducting the survey investigation.

Collecting Data

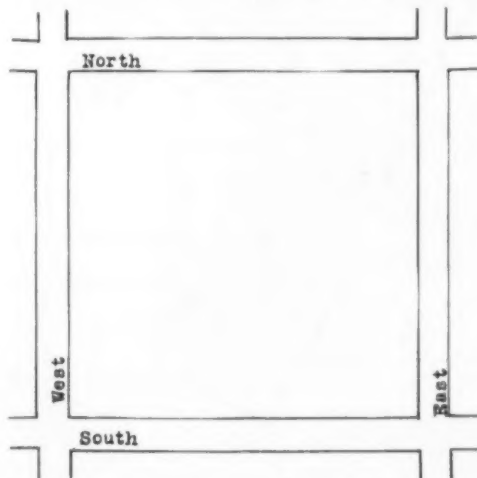
For the collection of facts a city school district map and several survey blanks are needed. Streets and city blocks need to be located accurately. A large map should be made showing every block, street, schoolhouse, and public building. At least one such map should be made of each ward school district or section of the city. The blocks in each ward should then be numbered, beginning at a central point and numbering outward. This is needed to direct the block survey and check on completeness and accuracy of reports. An additional map so prepared and sectioned or cut on school-ward boundary lines provides a valuable working map for each school.

Block survey blanks are needed in collecting information from each block. The one prepared for use in Fayetteville accompanies this explanation of plans.

CITY BLOCK SURVEY CARD

- Ward No. Block No.
North South East West
- Directions**
1. Draw line and cross out part not needed, if block is longer than wide.
 2. Write street names on sides of block.
 3. Draw lines for lots showing their shape and relative location.
 4. Write Code Letters on lots.
V—Vacant lot.
R—Residence lot, occupied dwelling.
VR—Vacant-residence lot, unoccupied dwelling.
BR—Business-residence lot, including hotels, rooming houses.
PB—Public building, as school, church, library, etc.
 5. Write figure before R or BR for number of families if more than one. For example, 2 apartments occupied, 2R.
 6. Write letter and figure after R or BR for
a. Number residing in dwelling (a—)
b. Number belonging to family (b—)
c. Number younger than 21 (c—)
d. Number younger than 6 (d—)
 7. Give Block Summary, Total No. of lots, V.....
B..... R..... VR..... BR..... PB.....
Total living on Block, White..... Colored.....
Total number of families, White..... Colored.....
Number under 21, White..... Colored.....
Number under 6, White..... Colored.....

One of the larger children of a school may be assigned the problem of gathering the information for one block. Modifications may be made



TYPICAL "BLOCK" MAP USED FOR MAKING SURVEY RECORDS.

to survey large or irregularly shaped areas often found outside of corporate limits, but within district limits. The block survey gives a practical problem for pupils participating and supplies needed information concerning the population and its distribution.

Building score cards, such as the Strayer-Englehardt Score Cards for city schools, used at Fayetteville, are needed to collect data on the school plant. The building principal should secure information about school site, playground, landscape and lawn, building dimensions, corridors, stairways and other conditions outside of classrooms. The teachers should submit facts about the classrooms. In the local survey a classroom teacher's and a principal's blank were prepared, the information requested including all items on the score card dealing with numbers and measurements. The collection of this information formed practical project work for pupils in the upper grades. A copy of the classroom teacher's blank used locally is included with this statement of plans.

CLASSROOM TEACHER'S BLANK

- Date.....
- School..... Ward No.....
Room Number or Name..... Grades.....
1. Pupils: Enrollment..... Average daily attendance last month..... Number within 1 mile of school....., 1 to 2 miles from school..... Over 2 miles.....
 2. Room: Length.....ft.; width.....ft.; height.....ft.; floor area.....sq. ft.; Cubature.....cu. ft.
 3. Walls: Color.....; finish (wood, plaster, etc.).....
 4. Windows: Number on East side....., West..... North....., South.....; on left of pupils....., right..... rear..... front..... Width of window glass.....ft.....in., length.....ft.....in. No. windows this size..... Give number and dimensions of windows of different size, if any. No..... length..... width..... Total glass area.....sq. ft. No. windows with shades....., without.....; color of shades.....; roller or adjustable..... Front wall to first window.....ft.....in., height of windows from floor.....ft.....in., ceiling to top of windows above casing.....ft.....in.
 5. Blackboards: Kind..... height from floor.....in., width.....ft.....in., length.....ft.....in., area.....sq. ft.
 6. Seats and Desks: Number single....., double..... Pupil capacity..... Number adjustable..... non-adjustable (each double desk counted as two)..... Number sizes non-adjustable.....
 7. Clock in room..... Electric lights..... book closet..... bulletin or display board..... Does room door swing in or out?

Reports on school building facts thus collected are submitted to the local representative of the central committee. The next problem is to actually score the building based on the information at hand. All the information available and required for the Strayer-Englehardt Score Card, if this card is used, should now be placed on the card, and enough copies prepared for the committee of three to five teachers (or other persons) selected to score the building. This committee will gather any additional information needed, such as on heating, ventilation, janitor service, and score the building independently. The consensus of judgments becomes the score for the building. A score card is finally prepared containing complete and accurate information about the building. A summarized report is also made of the block survey. These reports are prepared by the sub-committee for each school and submitted to the survey staff, together with all original score cards and working sheets.

The survey staff will need to have available still other facts, their number and nature depending upon their value in determining building needs. Data bearing on the growth and trend of the total population may be secured from such sources as the United States and other census reports, issuance of dwelling per-

mits and number of votes, cast by wards in majority campaigns. Comparative data with other cities of approximately the same size may be available. There should be available in the superintendent's office data concerning the school census and school enrollment by grades and ages for the past ten years or more.

Other school data, such as the cost of school buildings and equipment, year of construction, and bonded indebtedness, should also be available in the office of the superintendent. An analysis of receipts and expenditures of school funds for five consecutive years should be made and this compared with standards, item by item, to see if the school dollar has been wisely expended. An adjustment in expenditures may mean larger amounts available for school buildings and equipment. A carefully prepared budget along standard lines often means the saving of funds otherwise expended for less necessary things.

The survey staff must also collect information regarding the school curriculum, now and in the past. What subjects have been studied or courses offered in each of the twelve grades in the public schools can be easily and quickly determined. These may be compared with the present-day standards for a modern elementary and high school, the deficiencies noted, and the desirable changes determined.

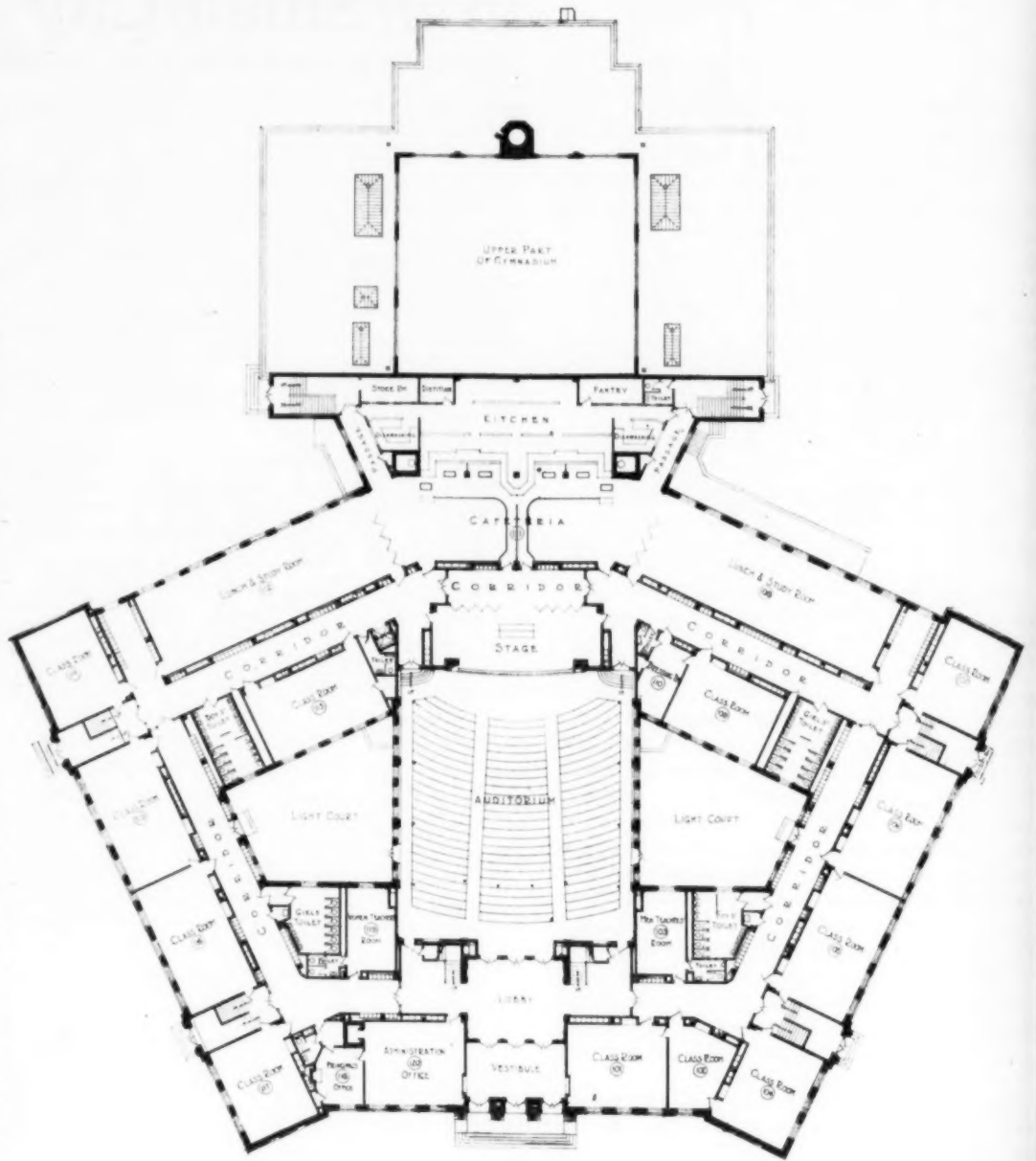
The Building Program

With facts about the population, the present school plant, the course of study, and the school funds at hand the survey committee is in position to determine the exact building needs and to work out a building program based upon these findings. This program should be reasonably progressive and forward looking, be based on facts properly evaluated and interpreted, and planned to meet building needs as they arise five or ten years in the future. The extent to which the existing school plant meets immediate needs, in what ways adequate provision has been made, wherein the present buildings are deficient, in what direction relief from congestion is most needed, and other facts and problems of this nature must be considered before ideas of real value and meaning in program construction can properly take shape.

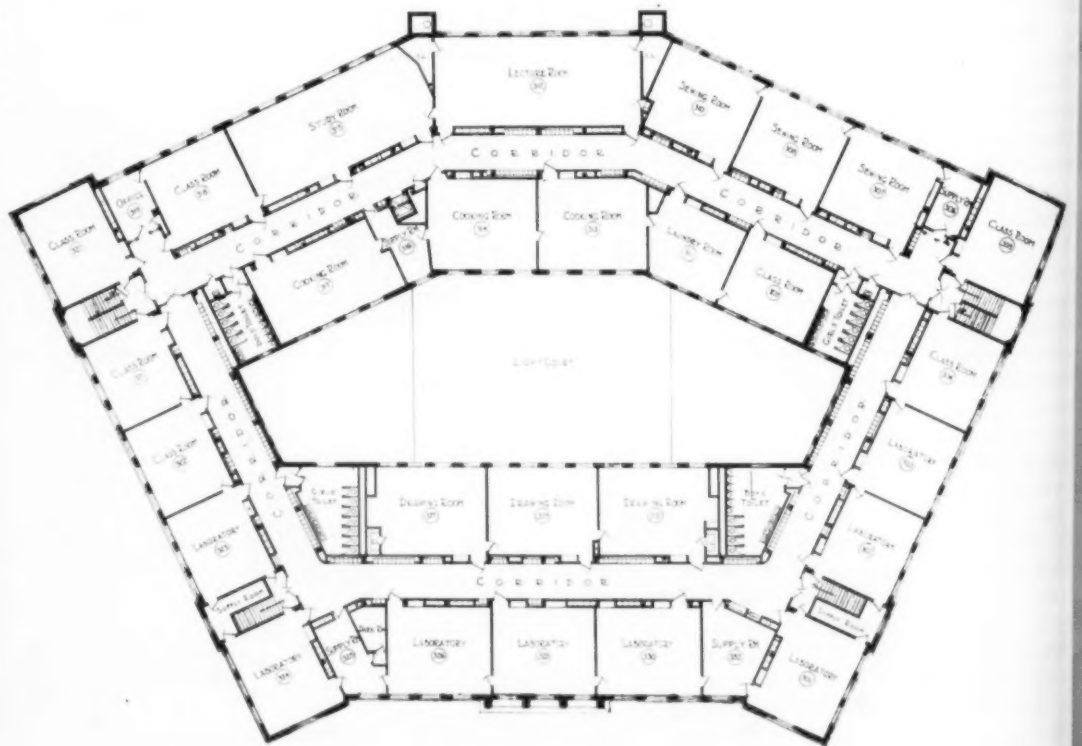
Another important factor entering into the proposed building program is the ability of the city to meet the expense. Various methods of paying for school buildings must be known. Those recommended should be permitted by

state law, be sanely economical, and still make available as nearly as possible the funds needed to care for the program as recommended. Such

a program and plan for carrying it out makes a strong appeal and is most likely to win public approval.



FIRST FLOOR PLAN



THIRD FLOOR PLAN



CORRIDOR, BEVERLY HIGH SCHOOL, BEVERLY, MASS.

FLOOR PLANS OF THE BEVERLY HIGH SCHOOL, BEVERLY, MASS. Adden & Parker, Architects, Boston, Mass.

The Beverly High School

The commodious new high school recently completed at Beverly, Mass., is the result of a recognized need on the part of the school authorities and careful and persistent planning on the part of the superintendent, the building committee and the architects both associate and consulting. The need of a new building was first broached in 1911, but due to certain unfavorable conditions, the matter was allowed to rest until 1921 when the proposition was again revived under more favorable circumstances. A petition for a special loan was filed in the state legislature and later a bill authorizing the city to borrow \$750,000 for the erection of a high school, furnishing the same, and providing a site was signed by the governor of the state. The site purchased is located at the junction of two streets and contains more than seven acres of ground.

At the beginning of the project, a special committee of three consisting of C. E. Ober, H. A. MacDonald and W. W. Laws was appointed to take charge of the details in connection with the erection of the building. A special architectural competition was conducted to procure the best architectural service, and Mr. L. S. Couch of Boston, was secured as professional adviser to the school board and the building committee. The program for the competition was put into operation in March, 1922, and on May 5th, Messrs. Adden & Parker, of Boston, were selected as the winning architects and awarded the appointment as the architects of the new building. The drawings of the architects were later submitted to Mr. William B. Ittner of St. Louis, for criticism and suggestions for improvement, and were again revised, the final drawings being completed and ready for bids on December 15th. Contracts for the building were awarded in February, 1923, and the work on the site was begun late in March of the same year.

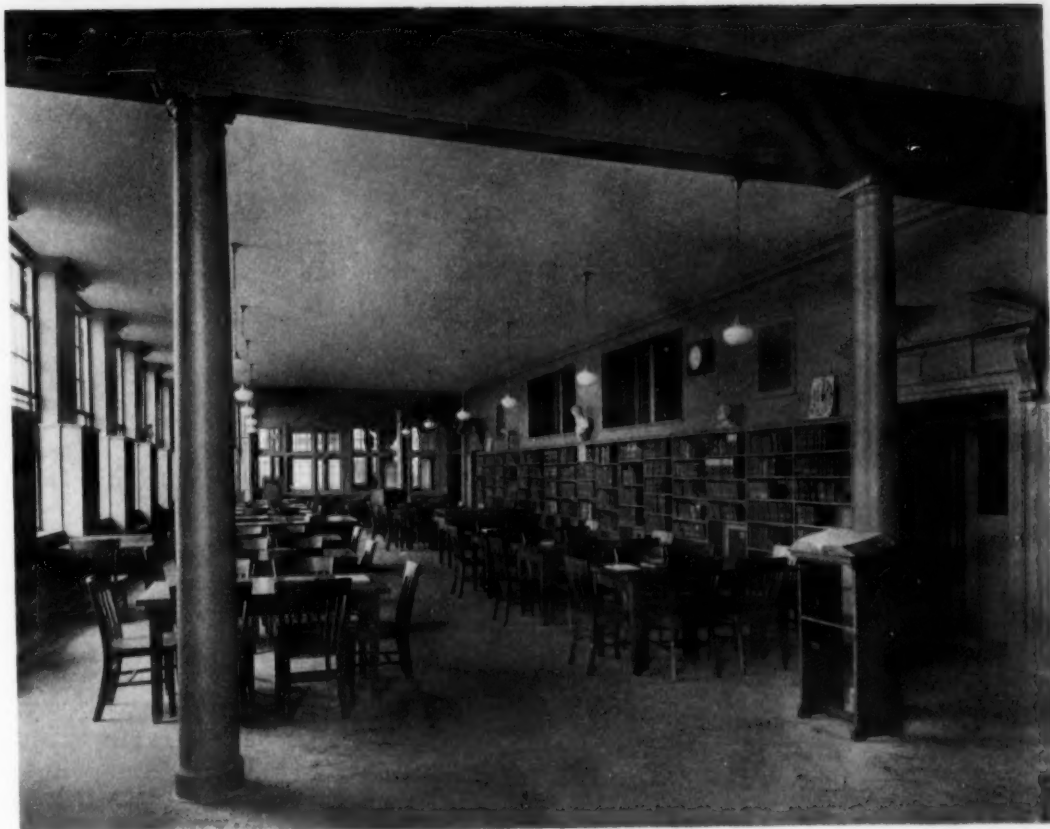
The building conforms to a certain extent to the outline of the site, the front facing the apex formed by the junction of the two streets; the sides are parallel to the two streets and the rear forms a connecting link between the sides and the gymnasium section which projects to the north. It is adaptable to future expansion through the extension of the side sections to the rear. A large light court in the center of the building provides light for interior rooms and the auditorium.

The building on the north side is devoted to shops. The exteriors of both buildings are of red water-struck brick, with cast stone trimmings designed in simple adaptation of the Georgian Colonial style.

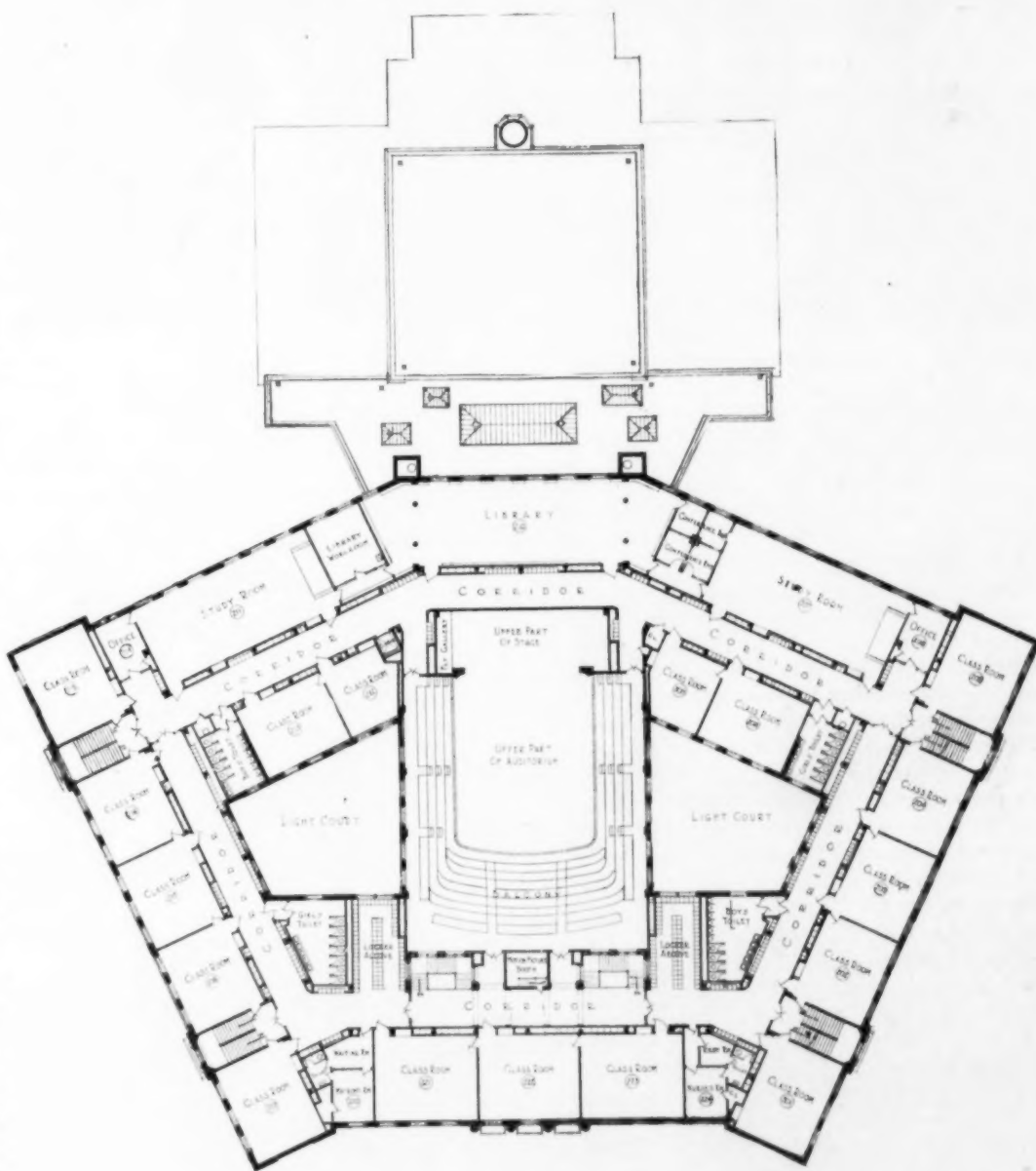
The main entrance of the building is flanked with a broad flight of steps leading to three doorways flanked by columns two stories in height. Friezes over the main entrance contain inscriptions giving historical facts about the school and a statement of its purpose. One frieze contains the words "Beverly High School." Supplementing the main entrance are four other entrances; two other entrances in the rear lead to the bicycle and unpacking and book storage rooms in the basement section of the building.

The main entrance leads to a vestibule, the walls of which are rusticated cast stone of a warm grey color, with a dark green marble base, and floor of colored cement tile. In the center of the end walls are bronze tablets, one giving the facts concerning the planning and erection of the building and the other inscribed with quotations from Washington and Lincoln.

Opening from the vestibule is the lobby, the central distributing point of the building. From

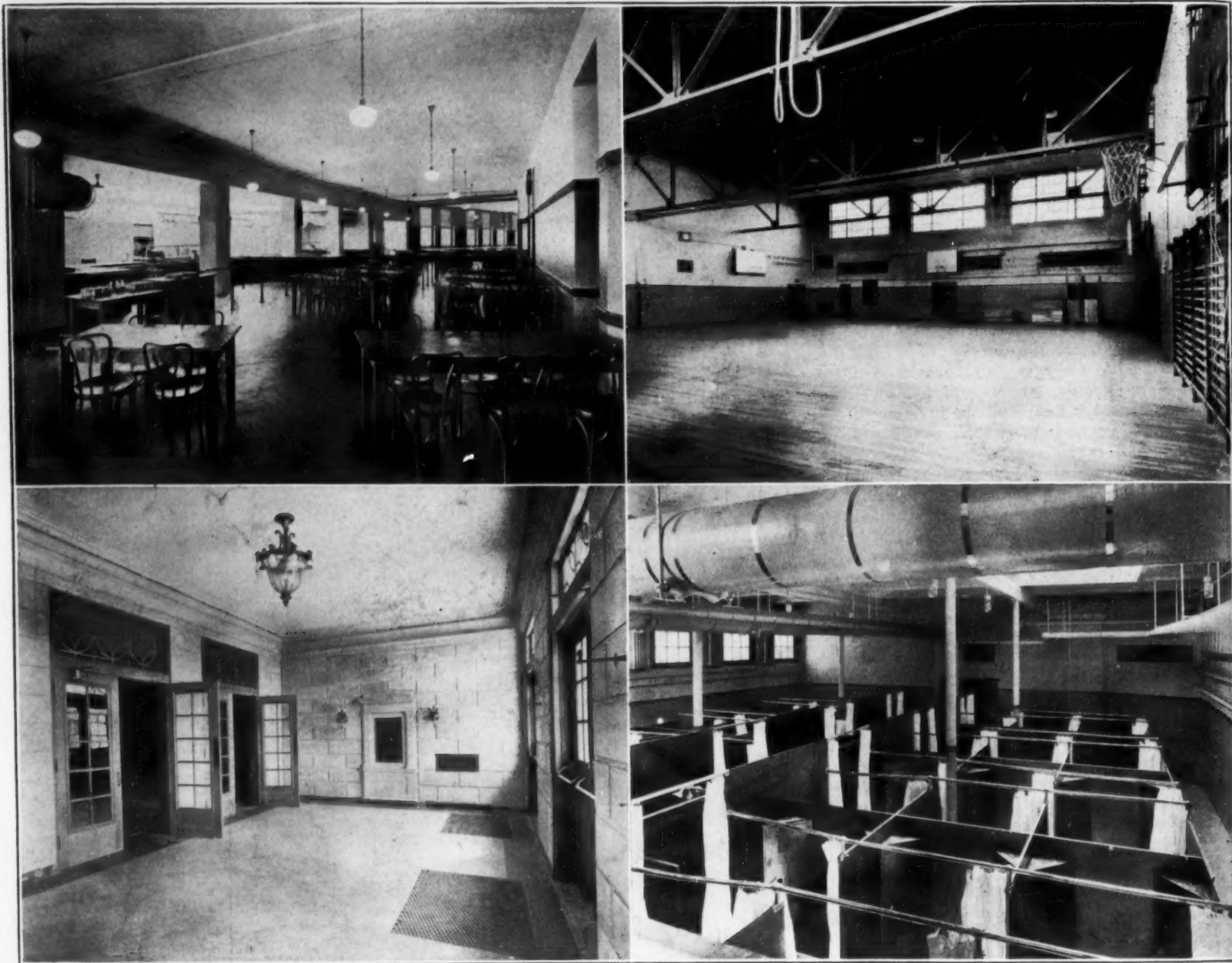


LIBRARY, BEVERLY HIGH SCHOOL, BEVERLY, MASS.



SECOND FLOOR PLAN

HIGH SCHOOL, BEVERLY, MASS.
Adden & Parker, Architects, Boston, Mass.



ABOVE: (LEFT) CAFETERIA; (RIGHT) GYMNASIUM. BELOW: (LEFT) ENTRANCE CORRIDOR; (RIGHT) SHOWERS. BEVERLY HIGH SCHOOL, BEVERLY, MASS. Adden & Parker, Architects, Boston, Mass.

it open the auditorium, the gallery staircase and corridors leading to other parts of the building. Close at hand are the administrative offices, the principal's office, and the teachers' retiring rooms. The lobby is panelled in oak, treated with pilasters and the floor is of the same tile used in the vestibule. With the exception of the cafeteria, the remainder of the first floor is devoted to the commercial department. The cafeteria which is located in the rear of the building is provided with full equipment for preparing and serving lunches and is arranged to take care of 1,500 students in a short time.

The second floor is devoted to the academic department. At the rear is the library, with a work room at one end and four small research rooms at the other, and two large study rooms closely connected with the library by means of short corridors. Study rooms and library afford accommodations for 90 pupils each.

At the front of the building, in the second story, are two other special rooms, a matron's room with waiting room and toilet, and a nurses' room with restroom and toilet.

The third story is devoted to science, drawing and domestic arts. It contains also another study room for 90 pupils, located directly above one of the second-story study rooms and a large room over the library for lockers or music.

The assembly room is so located that it may be used for community purposes with a minimum of disturbance to the remainder of the building. From the main lobby the floor slopes to the front of the stage; dances and other

school functions requiring free floor space are held in the gymnasium. The floor of the auditorium is granolithic, painted with a cement coating. Steps at the right and left of the stage lead to the rear corridor, cafeteria and gymnasium. Doors beneath the gallery on the side walls open to the light courts and thence to the side corridors. The gallery floor is of wood on a steel frame, with a projection booth in the rear for motion pictures. The stage is equipped with a fly gallery and electrical and other apparatus sufficient to provide for and develop the dramatic work which holds an important place in the school program. An arrangement is provided through which the full width of the rear corridor can be thrown on the stage by sliding back the panel work at the rear. The hall seats 800 persons in the main floor and 500 in the gallery.

The gymnasium can be entirely shut off from the main building and used for community purposes if desired. In close connection are offices, examination rooms and toilet accommodations for physical instructors, for both boys and girls. The gymnasium is 65 feet by 70 feet and is divided in the middle by a reinforced canvas curtain which may be raised or lowered as occasion requires, and forming separate gymnasiums for boys and girls.

The first floor is of reinforced concrete construction; the stairs are of steel and concrete, enclosed with metal and glass smoke screens; corridors throughout the building and the auditorium stage are of fireproof construction and

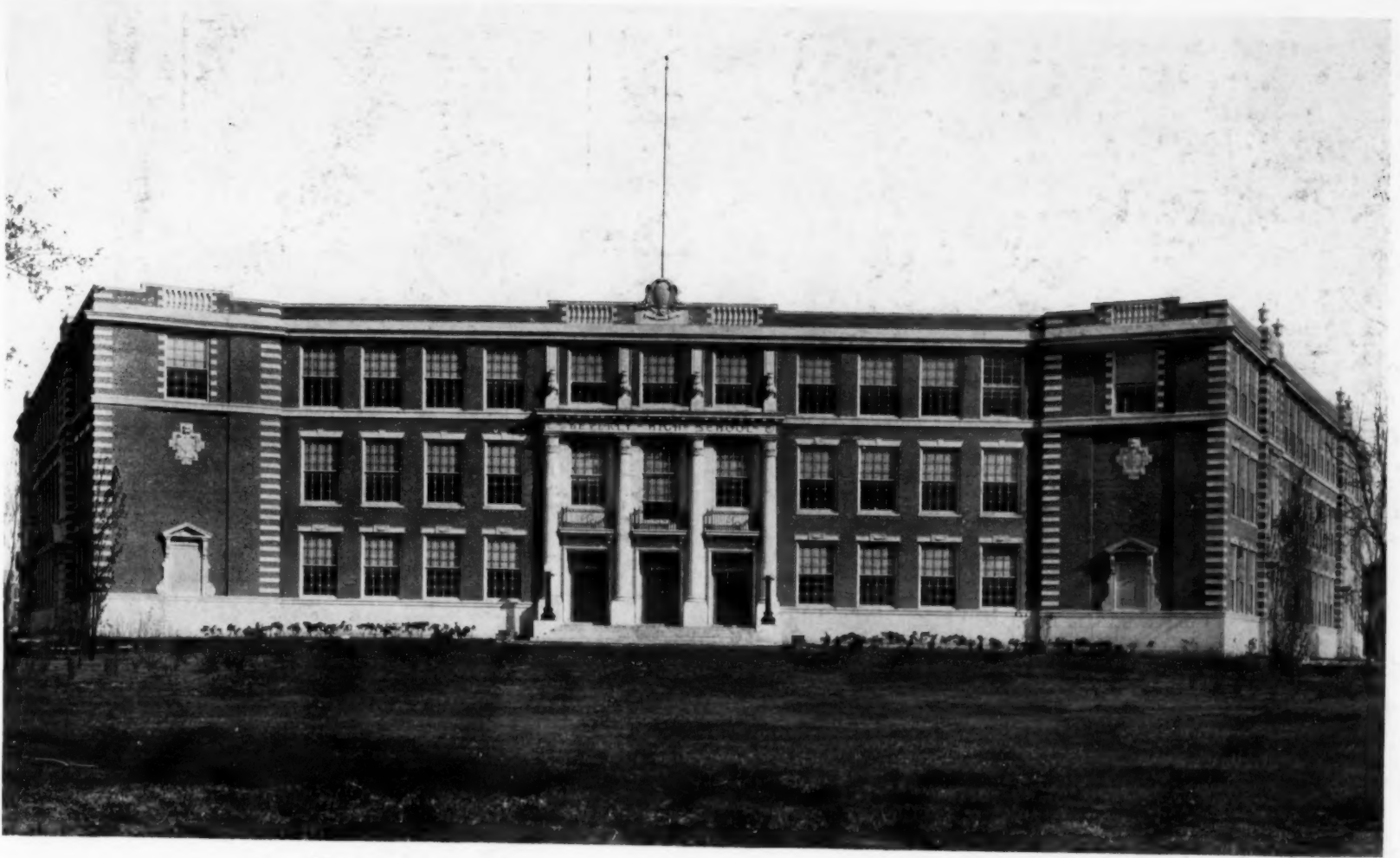
the stage also has an asbestos curtain. As an additional precaution, practically all rooms connect together and also with the staircases so that in case of emergency, escape is possible by way of the rooms. The building is well lighted throughout. The first-story corridors and the walls of the main staircase have tile dados, elsewhere they are of canvas; corridor floors are of linoleum, while classroom floors are of wood; clothing lockers for the pupils are of metal, recessed in the corridor walls. There are four toilet rooms on each floor; the floors are of flint tile, the walls are painted, and partitions are of slate.

The book storage and bicycle rooms occupy basement space directly under the two cafeteria lunch rooms. Opposite the front entrance and near the book room is an electric freight elevator serving the three upper floors.

The industrial department is placed outside the main school, in a building of the modern factory type. The department is well lighted and has accommodations for woodwork, automobile repair, painting, printing, and for instructors' quarters.

The heating system provides four boilers for supplying heat for present needs and space for two additional boilers when required. Fans in the stage section of the building supply fresh air to the classrooms and assembly hall, and exhaust fans on the roof take the foul air from the classrooms and lockers each on a separate system. Coal bunkers below grade allow coal to be

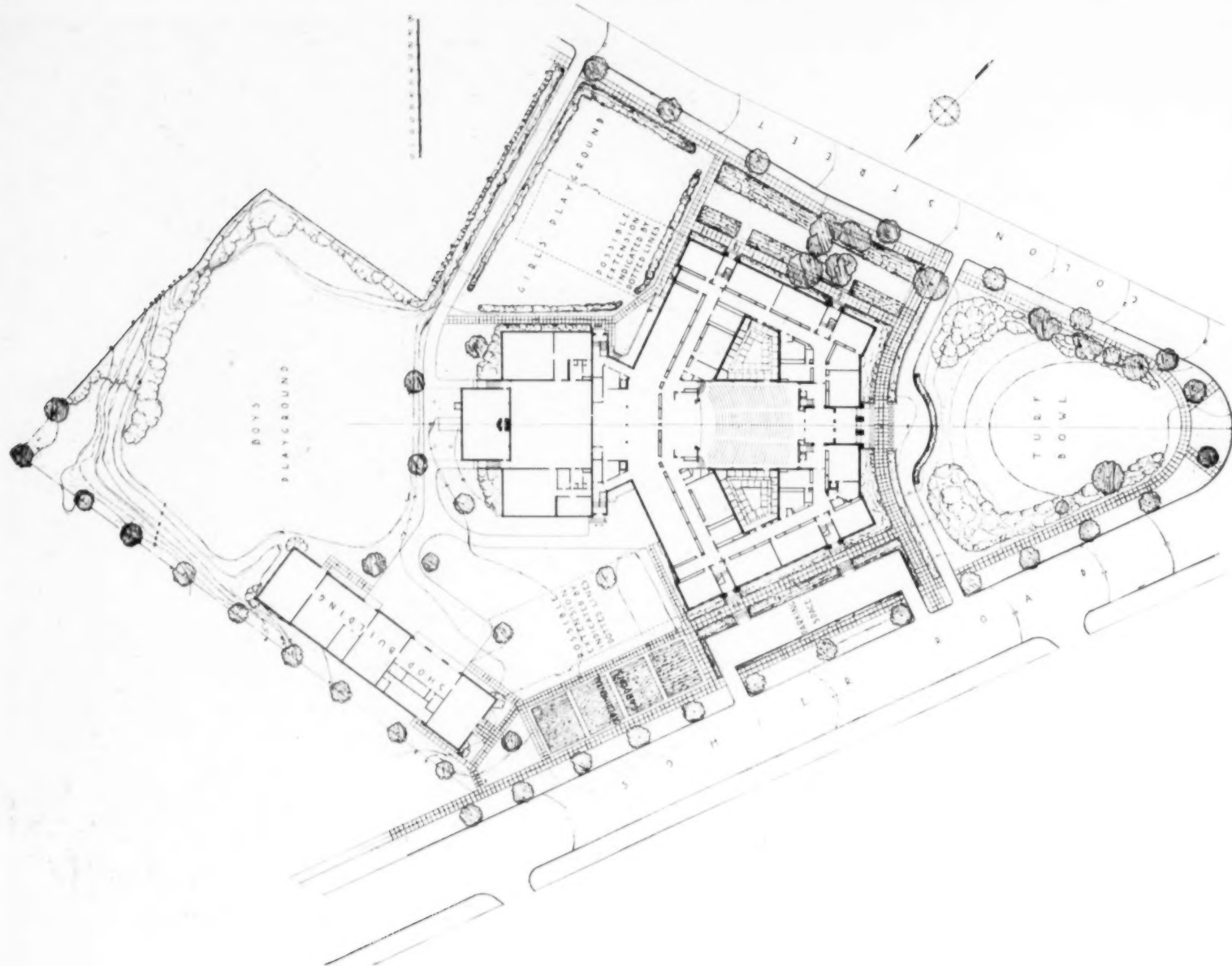
(Concluded on Page 164)



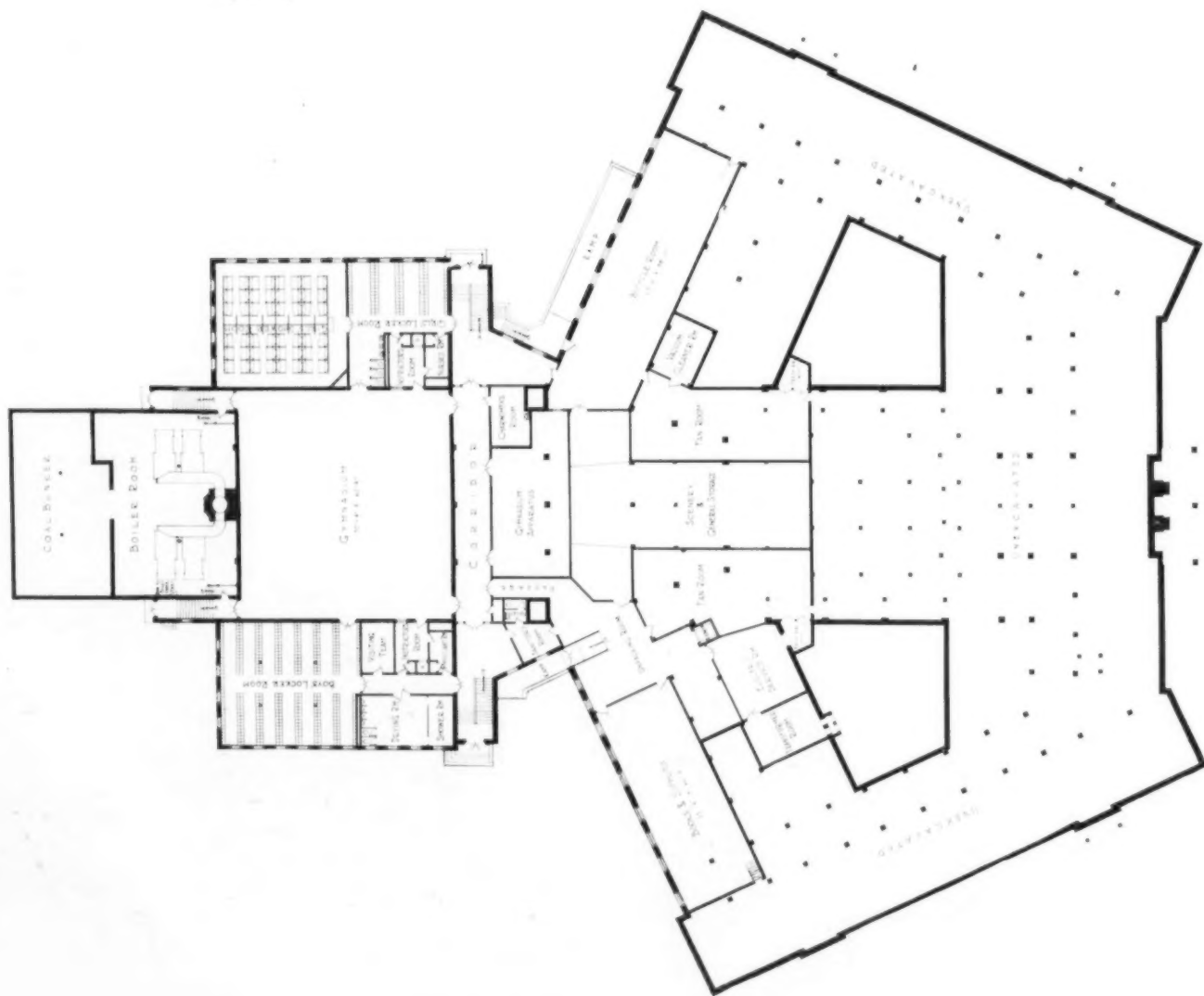
EXTERIOR VIEW.



AUDITORIUM.
BEVERLY HIGH SCHOOL, BEVERLY, MASS.
ADDEN & PARKER, ARCHITECTS, BOSTON, MASS.



PLOT PLAN, HIGH SCHOOL, BEVERLY, MASS.
Adden & Parker, Architects, Boston, Mass.



BASEMENT FLOOR PLAN
Adden & Parker, Architects, Boston, Mass.



MAIN FRONT.

THE WICHITA FALLS JUNIOR COLLEGE
AND HIGH SCHOOL, WICHITA
FALLS, TEXAS.

WM. B. ITTNER, ARCHITECT, ST. LOUIS, MO.

VOELCKER & DIXON, ASSOCIATE ARCHITECTS,
WICHITA FALLS, TEXAS.

The Entrance (left) is a modest adaptation of classic detail which serves to emphasize the varied-colored texture of the brick.

The Library (below) is endowed by Mr. and Mrs. C. W. Snider, prominent citizens of Wichita Falls.



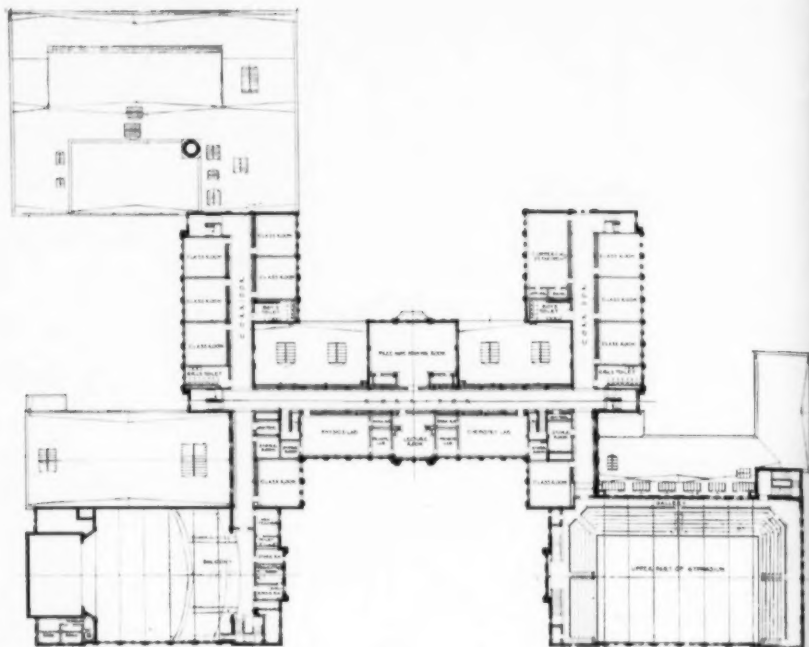
ENTRANCE DETAIL.



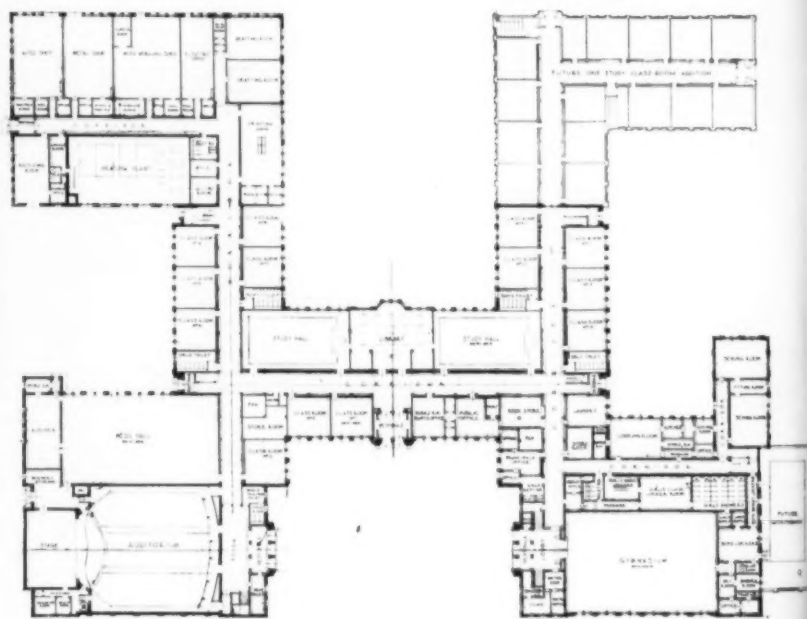
THE LIBRARY.



ENTRANCE TOWER.

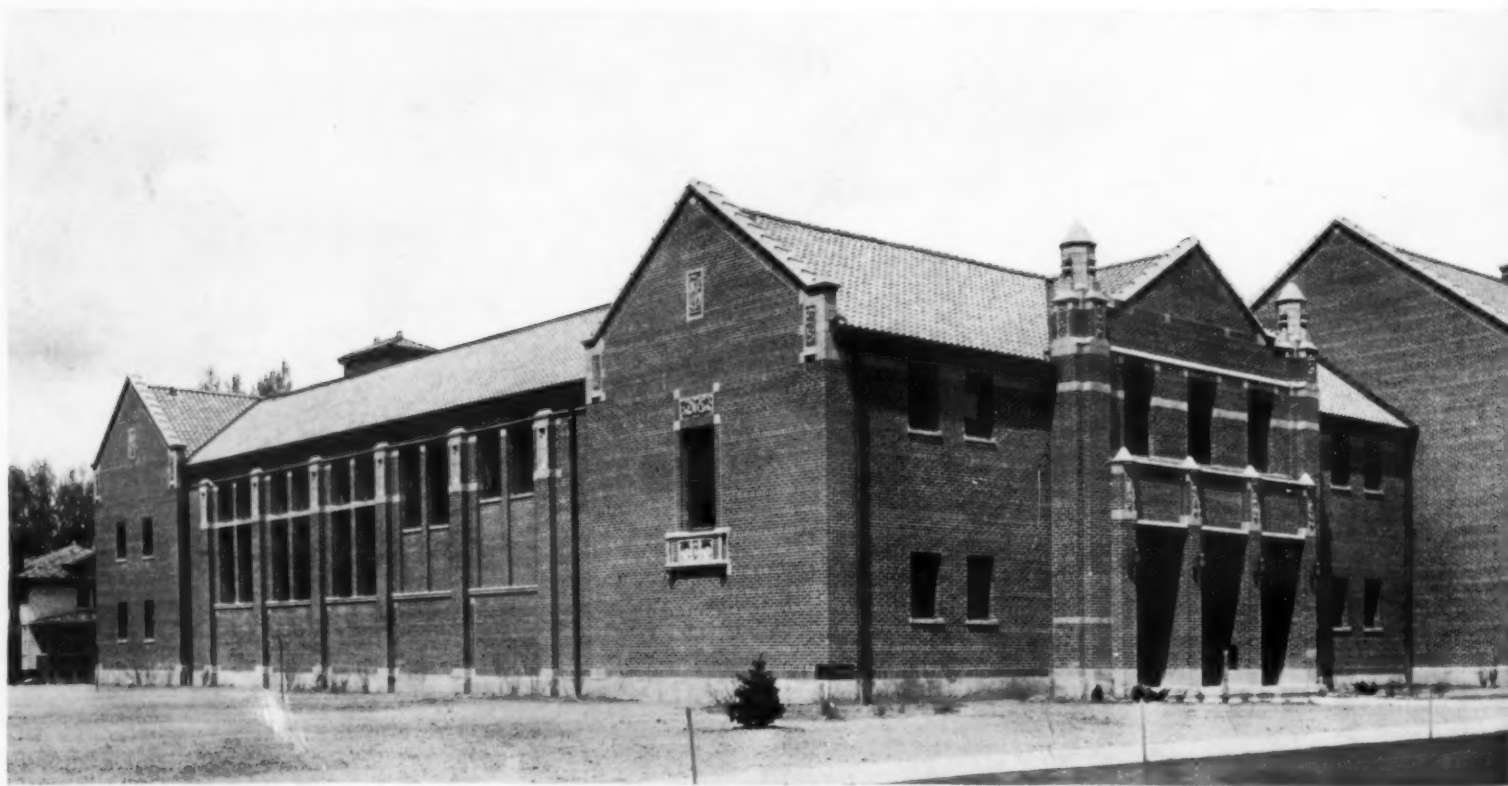


FIRST FLOOR PLAN.



GROUND FLOOR PLAN.

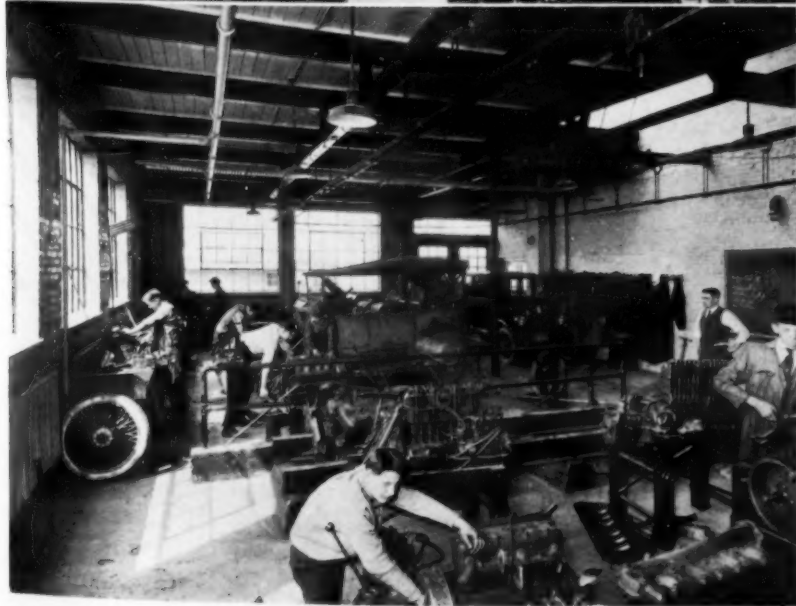
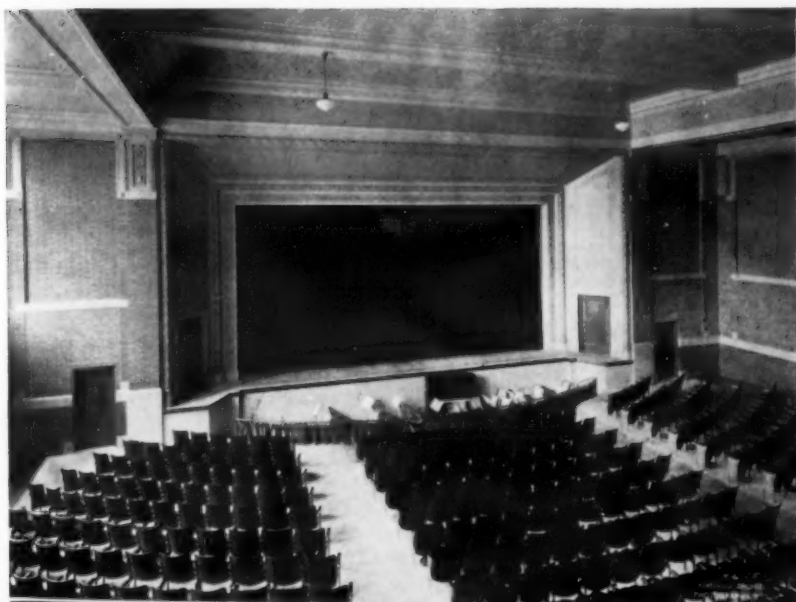
MISHAWAKA HIGH SCHOOL, MISHAWAKA, IND.
PERKINS, FELLOWS & HAMILTON, ARCHITECTS, CHICAGO, ILL.



AUDITORIUM.
(See Page 59.)



GENERAL VIEW.

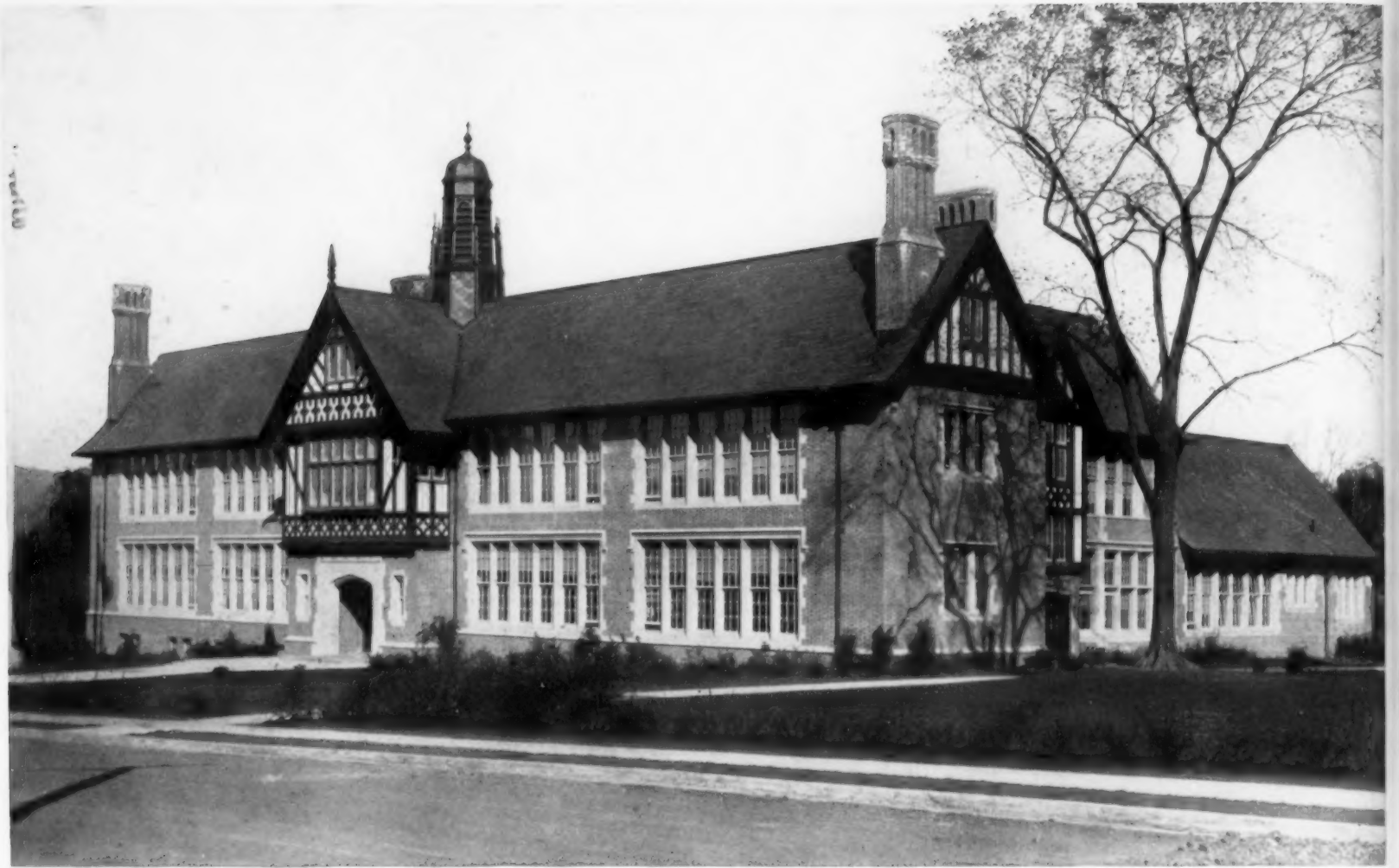


ABOVE: (LEFT) AUDITORIUM; (RIGHT) LUNCH ROOM KITCHEN. BELOW: (LEFT) AUTOMOBILE SHOP; (RIGHT) WOODWORKING SHOP.

HIGH SCHOOL, MISHAWAKA, IND.

PERKINS, FELLOWS & HAMILTON, ARCHITECTS, CHICAGO, ILL.

(See Page 59.)



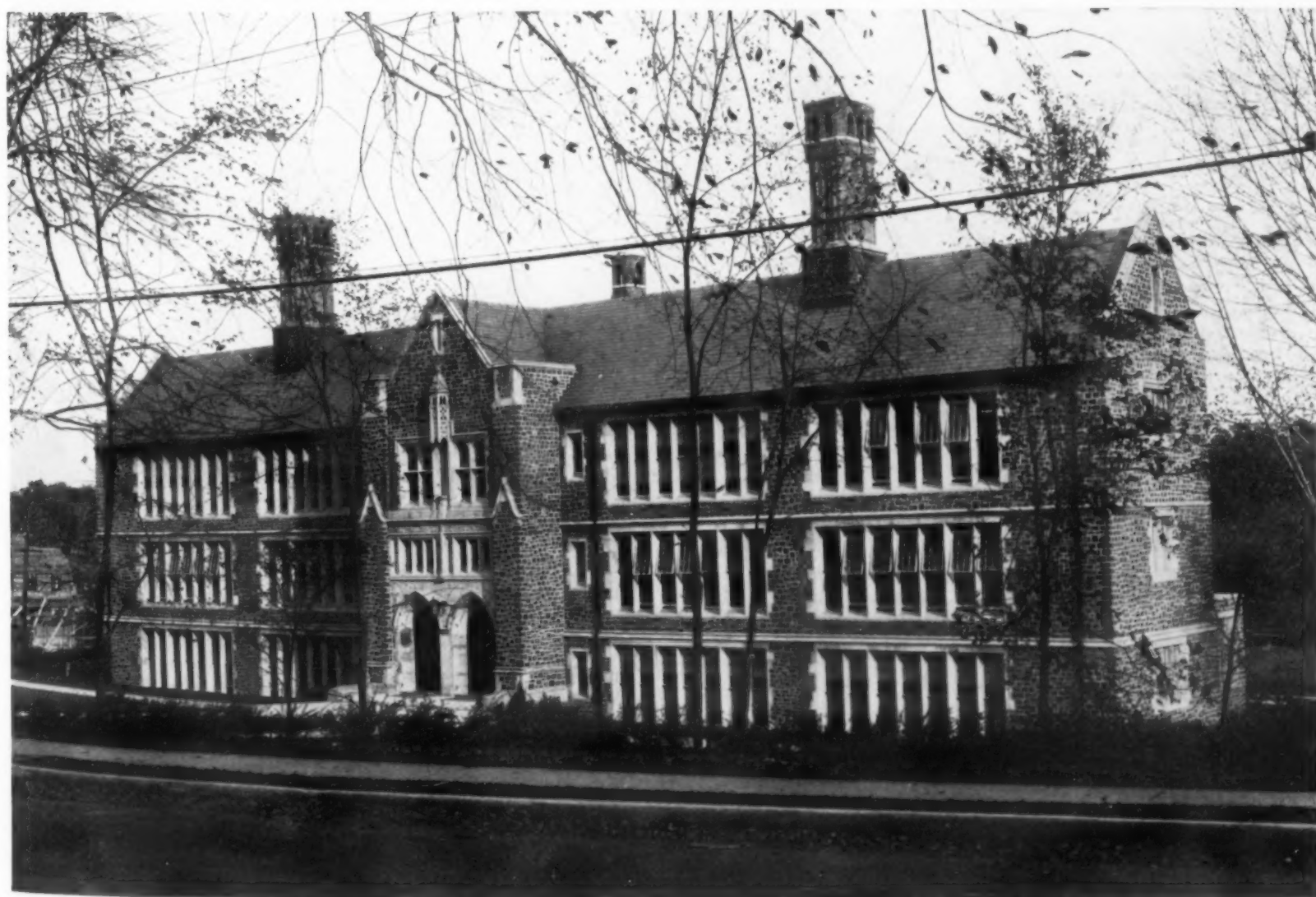
TUSCAN SCHOOL, SOUTH ORANGE, N. J.
GILBERT & BETELLE, ARCHITECTS, NEWARK, N. J.



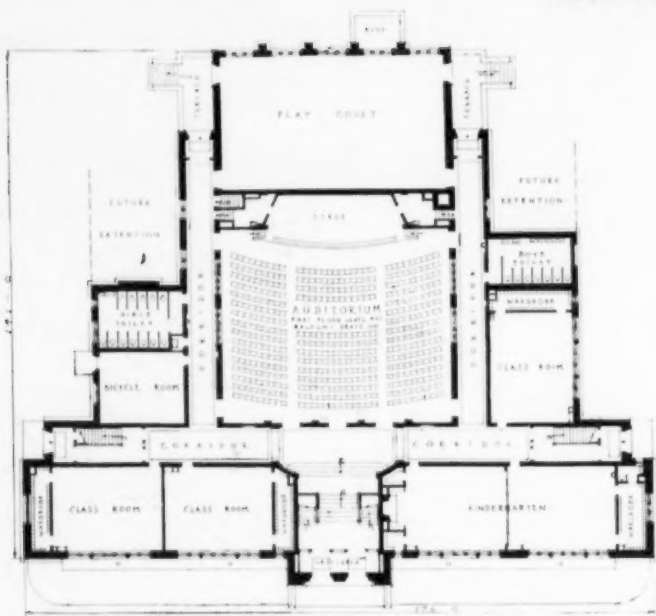
MONTROSE SCHOOL, MOUNTAIN STATION, SOUTH ORANGE, N. J.
GILBERT & BETELLE, ARCHITECTS, NEWARK, N. J.



JEFFERSON SCHOOL, MAPLEWOOD, N. J.
GILBERT & BETELLE, ARCHITECTS, NEWARK, N. J.



MARSHALL SCHOOL, SOUTH ORANGE, N. J.
GILBERT & BETELLE, ARCHITECTS, NEWARK, N. J.

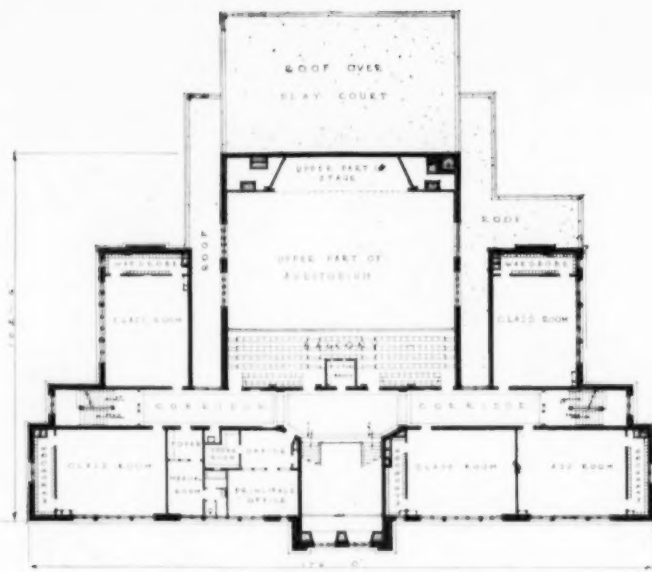


GUILBERT & BETELLE
ARCHITECTS
NEWARK, NEW JERSEY

JEFFERSON SCHOOL

SCHOOL DISTRICT OF SOUTH ORANGE
AND MAPLEWOOD, NEW JERSEY

FIRST FLOOR PLAN
SCALE



GUILBERT & BETELLE
ARCHITECTS
NEWARK, NEW JERSEY

JEFFERSON SCHOOL

SCHOOL DISTRICT OF SOUTH ORANGE
AND MAPLEWOOD, NEW JERSEY

SECOND FLOOR PLAN
SCALE

New Grade School Buildings of South Orange and Maplewood, N. J.

James O. Betelle of the Firm of Guilbert
& Betelle, Architects

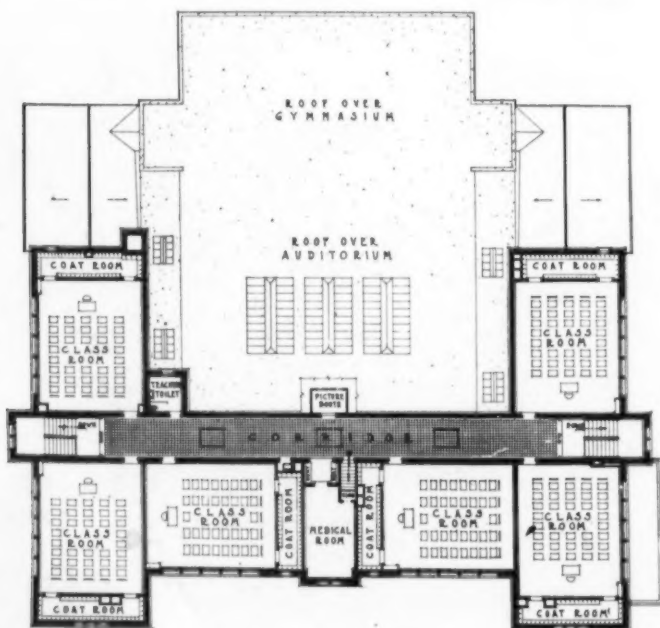
The Village of South Orange and the Township of Maplewood, New Jersey, are two separate municipalities. They are entirely independent of each other, but the direction of their educational affairs is vested in a single board of education. In this respect the situation is rather unique, but it has worked out to the advantage of all parties concerned.

This board of education is composed of nine trustees, elected to office for terms of three years, three members elected each year. The board elects its own officers and is organized for work in committees of three as follows: Teachers, Buildings, Finance, Course of Study, Sites; and a committee of one on the Teachers' Club. By having the chairman of the Sites Committee a member of the Building Committee, and the chairman of the Building Committee a member of the Sites Committee, the two committees are enabled to cooperate intelligently and without undue loss of time.

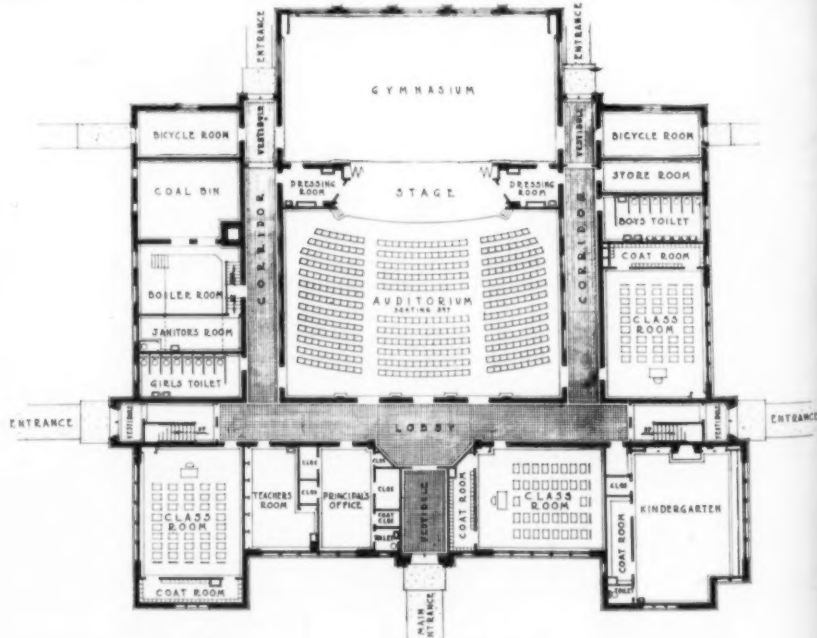


KINDERGARTEN, MARSHALL SCHOOL, SOUTH ORANGE, N. J.
Guilbert & Betelle, Architects, Newark, N. J.

A study of the needs of the district in the no home in the district will be more than one- matter of sites for new buildings was made two half mile from a school site. It has been the years ago and plots of land of generous size policy of the board to acquire the sites as soon were purchased in locations so distributed that as the probable future need has been made mani-

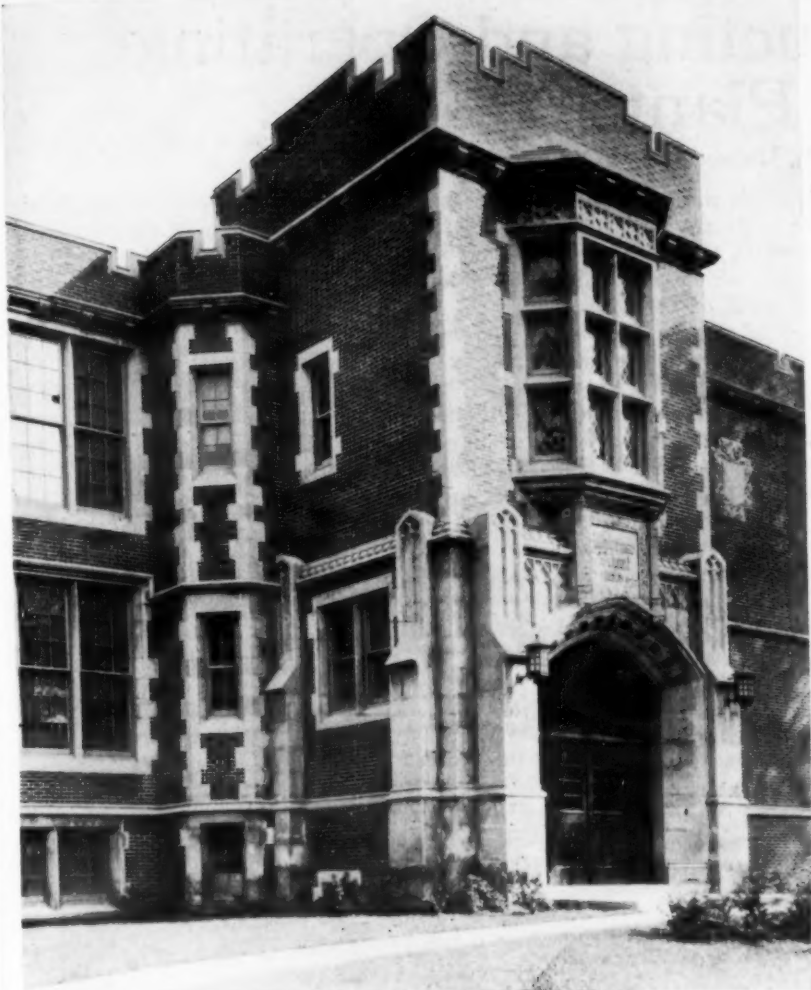


SECOND FLOOR PLAN.



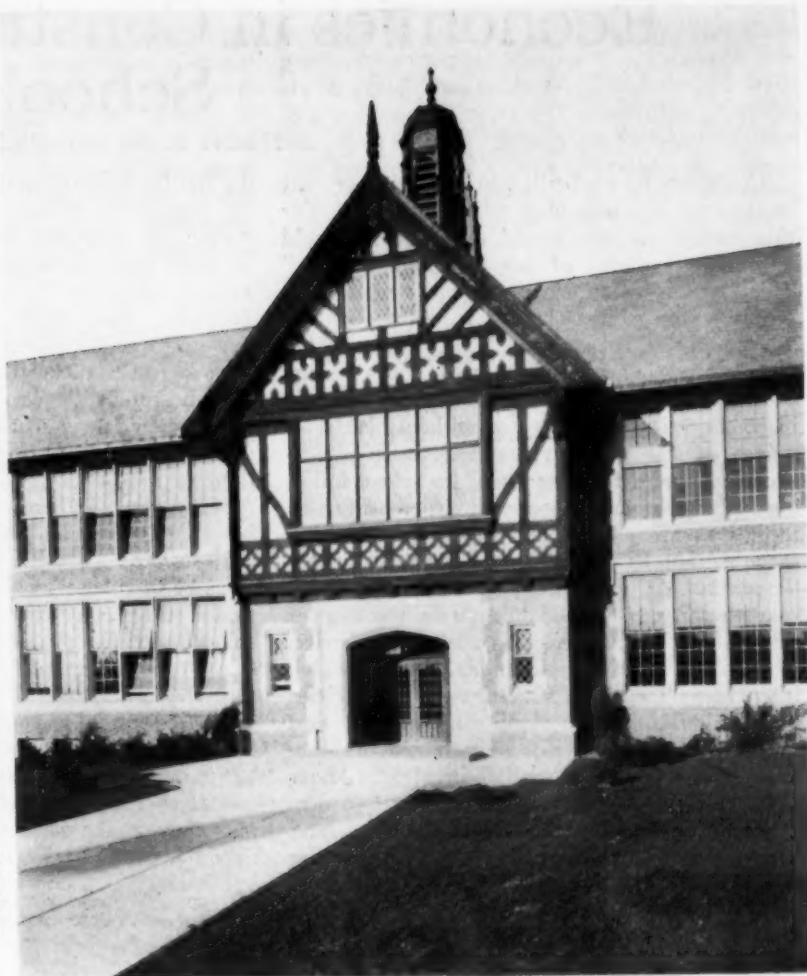
FIRST FLOOR PLAN.

FLOOR PLANS OF THE MARSHALL SCHOOL, SOUTH ORANGE, N. J.
Guilbert & Betelle, Architects, Newark, N. J.



ENTRANCE DETAIL, MONTROSE SCHOOL, SOUTH ORANGE, N. J.

Guilbert & Betelle, Architects, Newark, N. J.



ENTRANCE DETAIL, TUSCAN SCHOOL, SOUTH ORANGE, N. J.

fest, and they now have sites which will practically provide for the needs of the district for a period of twenty years.

These two communities are typical American suburban villages with a very high type of citizenship. Most of the heads of the households are New York business men who commute daily to their offices in New York.

The first building that was erected was the Marshall School. A great difficulty was encountered in the purchase of the site and still greater obstacles had to be overcome for authority to erect the building. This was due to a misunderstanding on the part of the citizens as to the type of building the board of education had in mind. The Marshall School is located in a very restricted and high class residential section and the neighbors had the idea that it was proposed to erect a square box of a building, which would be a detriment to the neighborhood. They only consented to the erection of the school after numerous meetings and after receiving the assurance of the board of education that the school would be of a quality and type that would be in character with the homes which surround it.

This first building was so successful, and the citizens were so well pleased with it, that three other buildings were erected directly thereafter without opposition and with entire confidence that the new buildings would be a credit to the communities in which they were located. The photographs of these buildings, accompanying this article, show that the confidence of the citizens was not misplaced.

South Orange and Maplewood are fast growing communities, and the school population has doubled within the last eight years, and will probably double again in the next ten years. With this fast increase in mind Mr. Henry W. Foster, the superintendent of schools, advocated the reorganization of the schools into a junior high school system of the six—three—three organization. This requires three different types of buildings: the first to contain the

kindergarten children and those of the first six grades; the second to contain the seventh, eighth and ninth year pupils and to be known as the junior high schools; the third to contain the tenth, eleventh and twelfth year students and to be known as the senior high school.

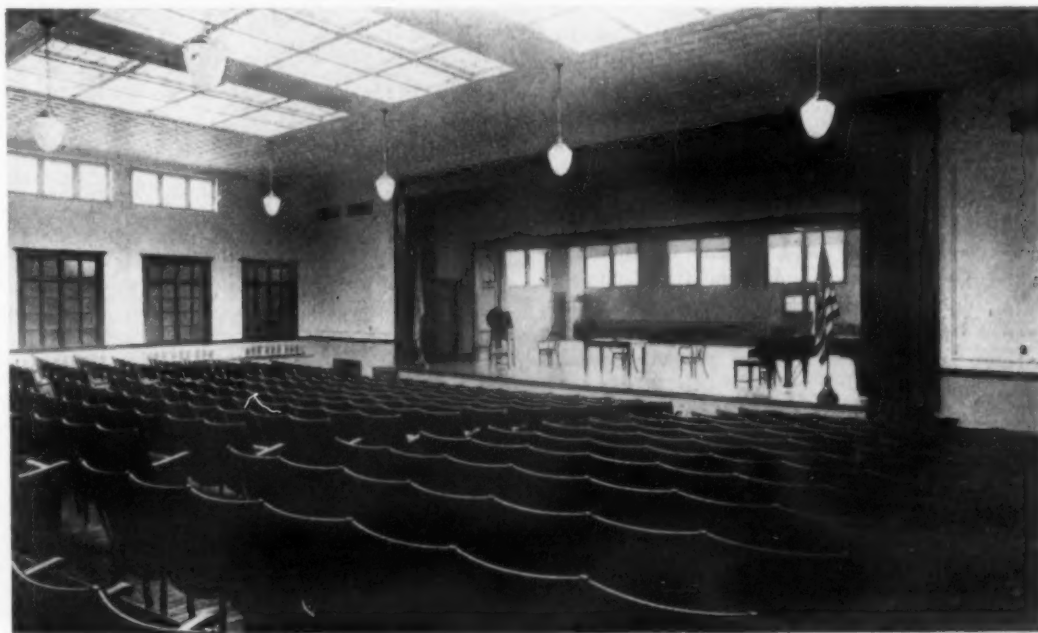
The four grade schools erected first and here illustrated, were to house the kindergarten and the first six grades, and when the entire scheme is carried out there will be three junior high schools in different parts of the community, two of which are now in operation in existing buildings, and the third yet to be built.

As a climax to the school building program, the plans for a large senior high school are now being prepared and the building will be completed at a cost of \$1,000,000 and will be ready for occupancy September, 1927.

While the present buildings contain approximately fourteen rooms and a kindergarten, besides an assembly hall and gymnasium, they are designed with a view of an ultimate capacity of twenty or more rooms as may be found necessary as the community grows.

The board of education not only erected attractive buildings but started right in the first place by purchasing sites of large size, most of them around five acres. After obtaining ample sites and erecting fine buildings they then employed well known landscape architects to develop the grounds and install shrubs, trees and plants, so that the school grounds are as attractive, if not more so, than the grounds of the homes which surround them.

(Concluded on Page 164)



COMBINED AUDITORIUM AND GYMNASIUM, MARSHALL SCHOOL, SOUTH ORANGE, N. J.

Guilbert & Betelle, Architects, Newark, N. J.

Economies in Constructing and Operating School Plants

Homer P. Rainey, Ph.D., University of Oregon

"A swimming pool will add only one per cent to the cost of a new high school building. For this reason, no one would say that it should not become a part of the new high schools." This is the essence of an argument made in a recent public address by the superintendent of a large city school system. The position stated certainly needs a careful analysis, and a discussion of the fundamental principles of economy in constructing and operating school plants.

One of the greatest demands upon educational resources is being made for school buildings. School enrollment is increasing so rapidly in many cities and towns that building space cannot be provided fast enough to meet the needs. At the opening of the present school year there were 50,000 children in the city of Chicago for whom there was no building space. Other cities are facing a similar problem, which is, in many instances, very acute. Some cities are already bonded to their constitutional and statutory limits; tax rates are almost unbearable, and there is no relief in sight. Many cities are forced to their financial limit to provide funds for current operating expenses, and have no means to provide for the increasing capital costs of education. In the past when economies have become necessary the first reductions have most generally been made in teacher's salaries, and very little, if any, thought has been given to the possibilities of economizing on the capital side of the cost. Plant costs for construction and maintenance and operation are very generally neglected in studies of educational finance. The assumption seems to be that such costs are insignificant in amount, and that they recur so infrequently as to be negligible in constructing a financial policy. This is a very grave error, because these costs are very regular in their demands. City population and school attendance have been and are increasing so rapidly that the capital cost of education for extensions is becoming the most difficult problem of educational finance. The question of possible economies in this field, therefore, is a pertinent one.

The first place for economy is in the initial construction of the school plant. Many issues arise here. The question should not be whether a swimming pool will cost one or two per cent in addition, but is it needed at all? Do we need large, expensive auditoriums which are used, in many instances, only a few hours per week? Do we need elaborate quarters for the board of education which meets for two hours monthly or semi-monthly as the case may be? Do we need large, expensively equipped gymnasiums? What about printing shops for courses in printing when not more than two per cent of our entire population are engaged in that trade? These are issues that cannot be disposed of with a mere wave of the hand. Some of them are rooted deeply in our educational traditions and philosophy. The time is at hand, nevertheless, when we must face frankly and seriously some of these issues in the light of present financial conditions.

Two of these conditions should be noted. The ratio of bonded debts to the value of school property is rising very decidedly.¹ The median percentage in 1910 was 12.1, in 1915, 21.6, and in 1920, 26.1. In ten states in 1920 this ratio was more than 50 per cent. These states were: Montana, New York, Arizona, and Oklahoma.

In the the last two named this ratio was above 80 per cent. These are averages for entire states. It is evident, therefore, that there must be large numbers of districts which are bonded approximately to the full value of their school property. The other fact is that educational expenditures for the country as a whole each year exceed the educational revenues, thus leaving an annual deficit which results in a steady increase in the educational debt.² This deficit must be met by borrowed funds. This deficit increased from \$14,490,115 in 1910 to \$57,695,541 in 1920. In many states the bonded debt increased more than 400 per cent in the decade 1910 to 1920. The question is, can these conditions be justified. Could not these conditions be remedied by more economical policies of school construction?

Another important fact to be kept in mind is that the initial cost of a plant is not the only cost. A swimming pool may not add more than one per cent to the initial cost of a building, but it may add fifteen or twenty per cent to the cost of operating that plant. In other words, it may commit the district to an enterprise which may become a heavy burden of expense. The

same may be the case for shops of various kinds.

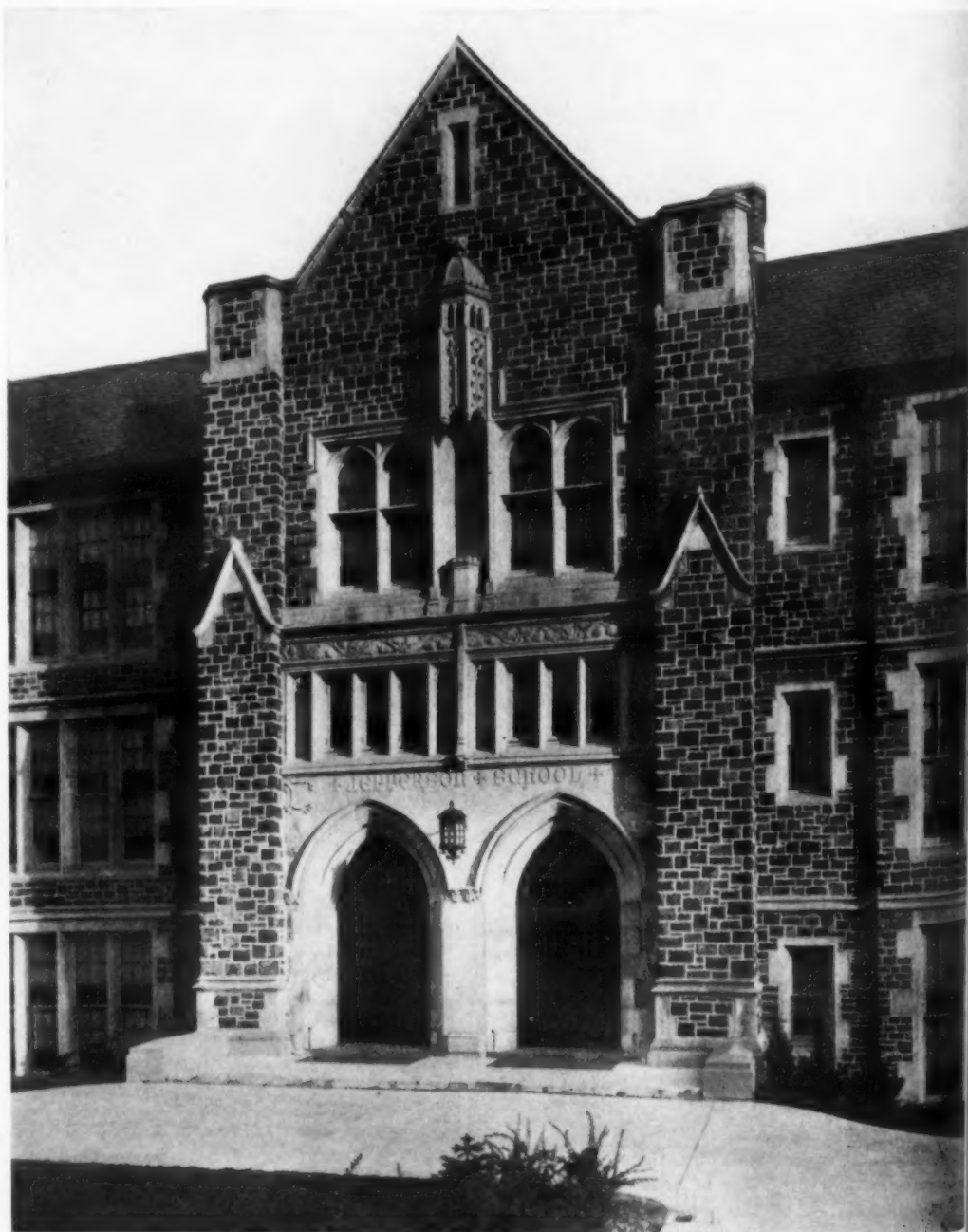
Another place for economy in constructing a school building is in the percentage of available classroom space. In the old one-room district school building this percentage was 100. Modern structures are not so fortunate in this respect. In a study made by the writer³ this percentage was found for ten high schools in Illinois. The facts are given in Table 1. Gymnasiums and laboratories are considered classroom space. Libraries, auditoriums, corridors, etc., are considered non-classroom space.

TABLE 1—PERCENTAGE OF CLASSROOM AND NON-CLASSROOM SPACE IN TEN HIGH SCHOOLS

School	Classroom	Non-Classroom
Elgin	51	49
Cicero	61	39
Maywood	58	42
Waukegan	45	55
Aurora, East Side.....	48	52
Aurora, West Side.....	68	32
Oak Park	56	44
Kenilworth	62	38
Harvey	49	51
La Grange	55	45
Average.....	55.3	44.7

The question arises, what should be the ratio of classroom to non-classroom space? Who

³Cost of Education in Ten Illinois High Schools. A Doctor's thesis, School of Education, University of Chicago, August, 1924.



ENTRANCE DETAIL, JEFFERSON SCHOOL, MAPLEWOOD, N. J.
Guilbert & Betelle, Architects, Newark, N. J.

¹Financial Statistics of Public Education in U. S., p. 80, Publication of The Educational Finance Inquiry, Macmillan, 1924.

²Ibid. p. 68.

knows? One school is operating on only 45 per cent. Another has 68 per cent. Is this wide range necessary? Certainly 68 per cent is more desirable, if it can be had without reducing the efficiency of the plan in some other respects. This is a problem to be solved by school architects in conjunction with school executives.

An administrative problem closely allied to the one above is, what use is being made of the available classroom space? Are small classes being housed in large rooms? How much cubage is necessary per pupil? Should ceilings be nine or fourteen feet high? How much classroom space per pupil needed is not known, but we have some estimates. Mr. Strayer⁴ of Columbia University says that each elementary child should have 200 cubic feet. The ratio of space-hours to pupil hours for the ten schools in Illinois is given in Table 2.

TABLE 2—RATIO OF SPACE-HOURS TO PUPIL-HOURS IN NINE SCHOOLS IN ILLINOIS

Harvey	699
Aurora, East Side	822
Maywood	519
Elgin	659
Oak Park	593
Kenilworth	885
Aurora, West Side	698
Cicero	929
La Grange	570

If Mr. Strayer's estimates are correct, these schools are not getting more than 30 to 40 per cent efficiency from the use of their plants. This means, in most instances, that the buildings are so constructed that it is impossible to get the highest possible efficiency from them. In many cases the ceilings are so high that the necessary amount of cubage per child is impossible to obtain and at the same time have sufficient square-footage per child. Also the classrooms in most buildings are built of almost uniform size, so that, if small classes are necessary in any subject, they necessarily have to be held in classrooms oftentimes twice the required size. This results in a waste in cubage. This may, to some, seem a small matter, but in a large school system for a year the waste resulting from these conditions becomes considerable, and since most schoolhouses are used for more than half a century this waste becomes enormous in the life time of a building.

The above calculations were made using the length of the school day of each city respectively. No account has been taken of the fact that our school buildings are used for such short hours each day, for only five days each week, and for only nine months each year. There is no business or industry in the United States that has so much money, or capital, invested as is invested in school plants and that uses its plants for such a small percentage of the time. Schools open at nine and are out at four, with an hour off for lunch in many places. In the study referred to above the writer found some interesting facts about plant costs in this connection. The cost for plant maintenance and operation was reduced to a unit space-hour cost. The unit found giving the most satisfactory cost figure is 1,000 cubic yard-hours. This unit was obtained in each case by dividing the total plant cost for the year by the total number of space-hours used. The following table gives this unit cost for each school.

TABLE 3—COST PER 1,000 CUBIC YARD-HOURS FOR PLANT MAINTENANCE AND OPERATION FOR TEN SCHOOLS

Oak Park	459
Aurora, East Side	410
Aurora, West Side	443
Maywood	445
La Grange	710
Kenilworth	546
Harvey	576
Elgin	633
Cicero	344
Waukegan	443

There are some interesting facts in this table for school executives. In the first place, there is a wide range in the unit cost. This range may be due to several reasons: (1) the age and kind of building; (2) the type and architecture

of the building; (3) economy in expenditures; and (4) the amount of time the building is in use per day. Special attention is directed to the last reason stated. The school in this group having the lowest unit cost is the school which is using its building most. This school is Cicero. This school is operating on a relay or twelve period day schedule while the other schools are operating six, seven, or eight. Cicero is paying thirty-four cents per 1,000 cubic yard-hours for the use of its plant, while some of the others are paying twice that amount. That is what we would expect since the first cost for janitors, heat, etc., is the significant cost. After a building has been heated for six periods the cost for six additional periods is much less. The same is true for janitor service. Most buildings are cleaned only once per day, and this costs no more for a twelve period day than

for one of six periods. Cicero is thus getting much more service for its money spent. With a building capacity of approximately one thousand, it is accommodating two thousand students per day by its relay schedule and is thus getting double service for its money spent. This fact has other important implications from the standpoint of capital invested. By operating on a double schedule day and thus caring for twice the normal number of pupils, the district is saved approximately fifty per cent on its capital invested. This is reflected in at least three ways, namely, interest on investment, annual accrual cost for extensions, and depreciations. Oak Park, for example, having two thousand students and operating on a six-period day, has voted \$500,000 in bonds to enlarge its plant. Why not lengthen the school day and save the district this additional outlay?

The Mishawaka High School

Designed by Perkins, Fellows & Hamilton, Architects, Chicago, Ill.

(See Pages 52 and 53)

The location of this high school is on Lincoln Highway, at the eastern extremity of the City of Mishawaka, Ind. The Board of Education wished to erect on their twelve acre site a building that would not only meet all present high school requirements and by expansion provide for future growth, but also attract and please the New York-San Francisco automobilists passing on their transcontinental tours.

A senior high school to accommodate 1,150 pupils at present and to be capable of extension so as to make provision for a total of 1,500 pupils was the program decided upon. The appropriation—\$725,000—was the maximum available fund for building purposes and it was not exceeded in the final accounting.

In designing this building, the following well defined departmental subdivisions were recognized: The main or academic portion, the manual training shops and heating plant, the auditorium with lunch room, the gymnasium with natatorium and accessories, and the domestic science department for girls. The library, two study halls, free hand drawing room and music room were incorporated as a part of the academic or classroom portion.

The Indiana state regulations which prevent the construction of more than a basement and two floors above, also influenced the design.



DETAIL OF ENTRANCE TO THE VILLAGE SCHOOL, MISERDEN, ENGLAND.

The need for light, the general disposition of masses as a group, and in a combined structure, at present and in the future all controlled the making of this plan.

The proportion of classrooms to other parts both at present and in the future are given in the following figures:

AT PRESENT

		Totals
Classrooms	23 for 30 pupils each	690
Laboratories	4 for 24 pupils each	96
Lecture rooms	2 for 12 pupils each	24
Study halls	2 for 125 pupils each	250
Library	1 for 50 pupils each	50
Commercial Dept.	1 for 48 pupils each	48
Free Hand Drawing	2 for 24 pupils each	48
Music	1 for 60 pupils each	60
Manual Training and Mechanical Drg.		168
Domestic Science		132
		1566

IN THE FUTURE

		Totals
Classrooms	36 for 30 pupils each	1080
Laboratories	4 for 24 pupils each	96
Lecture rooms	2 for 12 pupils each	24
Study halls	2 for 125 pupils each	250
Library	1 for 50 pupils each	50
Commercial Dept.	1 for 48 pupils each	48
Free Hand Drawing	2 for 24 pupils each	48
Music	1 for 60 pupils each	60
Manual Training and Mechanical Drg.		168
Domestic Science		132
		1956

A study of the first column of figures shows 1566 stations for pupils, about seventy per cent of this number, or 1150, is the capacity given for this school at the present time. By the addition of thirteen classrooms and the natatorium, the capacity of the school is increased to the total of 1500 above referred to.

The athletic field is on the north portion of the site. The buildings are placed far enough back from the Lincoln Highway to make a spacious park in front and to add to the monumental effect of the whole group.

The central tower distinguishes the principal entrance to the academic building at the east of which are placed the administration offices for the district and for the high school.

Opposite this entrance one finds the library and the two study halls, conveniently accessible from all parts of the building. The gymnasium in the east wing and the auditorium in the west wing are both entered from the central court through spacious foyers.

The whole presents a complete, well balanced, correctly proportioned high school plan for the three upper grades.

The design of the exterior is an adaptation of early Gothic expressed in rough red-face brick of variegated shades and trimmed with rough light-colored terra cotta. The construction is fireproof. The building contains 2,492,338 cubic feet and was built at a total cost of \$722,387.00 showing a cost rate of 29 cents per cubic foot. The 1150 pupils were accommodated at a rate of \$628 per pupil.

⁴Score Card for City School Buildings—Strayer & Engelhardt, p. 35.



FIG. 1. THE SCHOOL OF YESTERDAY AT PIPESTONE, MINN.

A good illustration of the best type of school building of the last two decades of the nineteenth century—Schoolrooms spacious, but not well dimensioned—Daylight illumination bilateral whenever possible and generally inadequate—Ventilation faulty—Corridors unnecessarily wide—Stairs in long runs and generally steep—Exits few—Sanitation primitive—Building materials mostly combustible—Exterior design a dominant characteristic—Wasteful of space—Annually in need of repair.



FIG. 2. THE INEXORABLE ASSAILANT OF THE FOGRUM SCHOOL AT PIPESTONE, MINN.

Generally restricted in its work of destruction to buildings and equipment, but sometimes taking its toll of human lives, as at Collinwood, Peabody, Camden, and Babb's Switch.

An Inquiry into the Utilization and the Cost of a Modern School

Samuel A. Challman, State Director of School Buildings for Minnesota

Whenever a new school building becomes a necessity in a community, the first question that naturally arises is that of the educational needs that are to be met. Having determined these, the physical considerations that will satisfy the educational requirements must then be worked out.

A careful analysis of both of these factors soon discloses the fact that no two communities would have exactly the same needs nor could the same physical plant be duplicated to advantage. In fact the more thorough the investigation of the local educational requirements, the more individually characteristic will be the physical plant.

The best as well as the most modern school of today is the one that renders the highest service in promoting the welfare of the child and the best interests of the community. The highest welfare of the child consists in the development of his latent powers, making him physically fit, mentally alert, and morally dependable, so that he will be able to meet his social, civic, and industrial obligations in a satisfactory manner. To this end each subject in the curriculum must be accorded its proper recognition and given its allotted space in the building, consistent with such requirements as will facilitate the instruction to be offered, and the number of pupils to be served. The building must also meet such community requirements as will offer the type and quality of service that the interests of the adult population may demand. To plan the building, therefore, to fit the right kind of an educational program is vitally important.

It is common today to ask such questions as these: Why do we need such elaborate school buildings? Why such a multiplicity of courses? Why such a lavish expenditure of money for education? In all but a few cases, where extravagance is regrettably evident, the true answer is that we have not in the past spent, nor do we now spend, too much money on school buildings or school courses. Our buildings are not as a rule elaborate. Our courses may be numerous, but in most instances, multiplicity of courses exists only where the enrollment is large. While some courses might be eliminated, their elimination would in most cases only mean

that pupils, deprived of such courses, would have to take up others in place of those eliminated, and the space in the building vacated by the eliminated courses would at once have to be used for other subjects to which the aforementioned pupils would be assigned. So far, therefore, as any saving may be effected in the building itself, this would be practically negligible. The saving, if any, would consist in the difference between the cost of instruction in one subject as over against that of another.

Barring the kind of building materials used merely for decorative effect, the question as to whether a building constitutes an extravagance practically resolves itself into a diagnosis of the actual cost of the investment per room and the use to which each room is being put. It is fair to ask how much of the cost of the building is represented by a grade room, a laboratory, a shop, an auditorium, or a gymnasium. While large rooms no doubt represent a relatively higher cost of building, an average cost may be obtained by computing the cubical contents

of each room and multiplying this by the cost per cubic foot of the building. While the question of the use of a room would, strictly speaking, also include a consideration as to whether the room is used to its full capacity or not, the mere fact that a room is needed for a particular purpose would justify classifying it as being in use for such time as classes are occupying it, even though every seat might not be filled. It is manifestly impossible to organize a school so that all seats are filled in all rooms at the same time.

It may prove interesting to seek the answer to the two questions raised, by subjecting some particular school building to an investigation. In order to make the inquiry sufficiently comprehensive to include a modern educational program with provision for all classes from kindergarten to the senior class in high school, a system with about a thousand pupils enrolled would perhaps give a fairly general insight into the cost of the various rooms and the extent to which they are used.

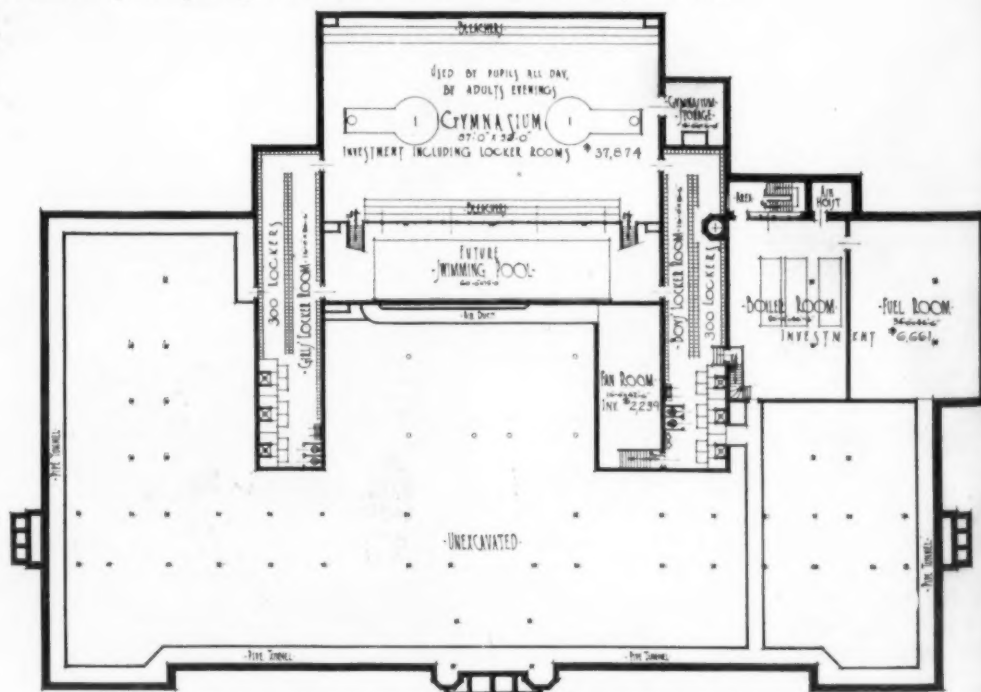


FIG. 4. BASEMENT PLAN, PIPESTONE, MINN., SCHOOL.

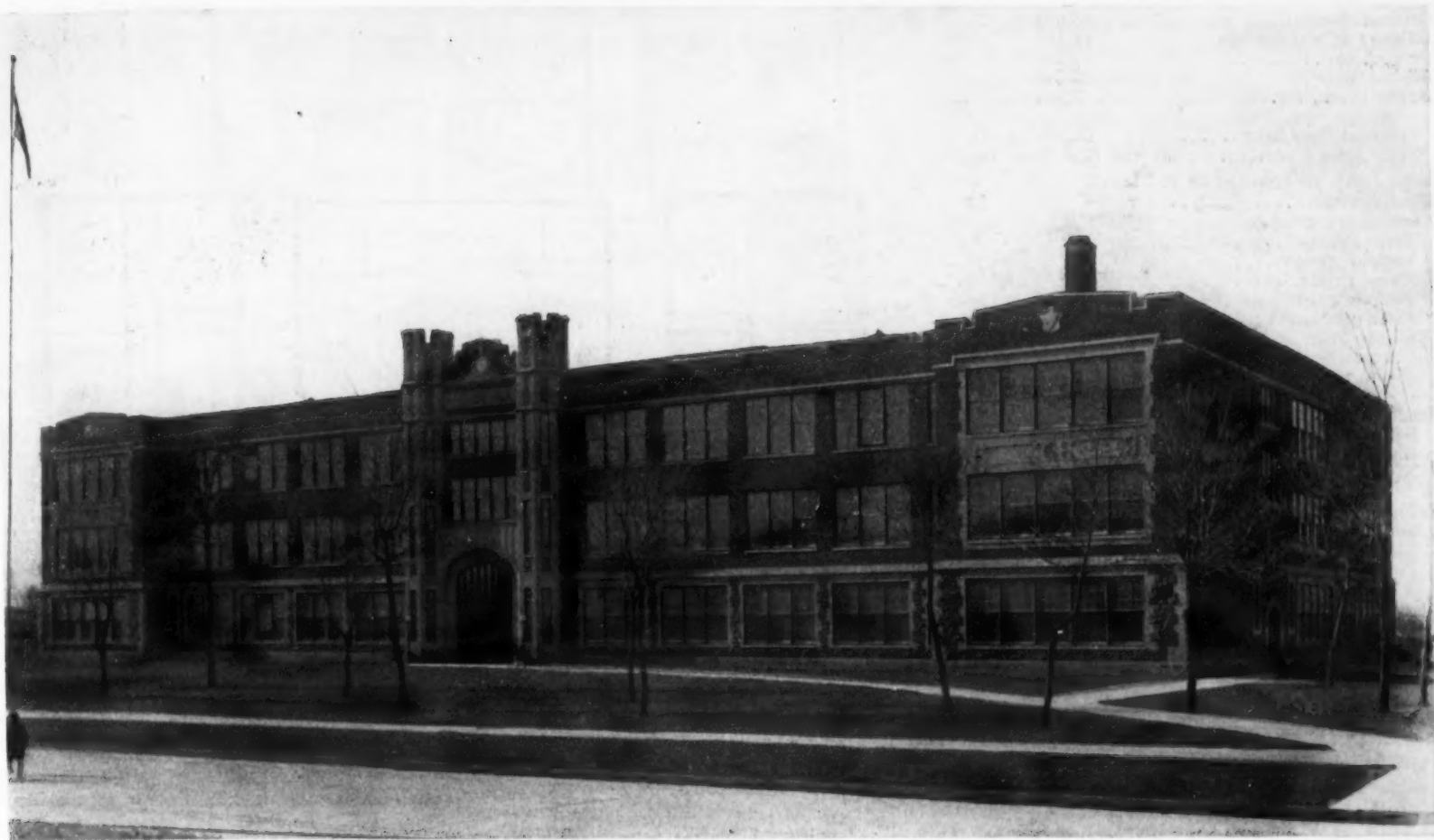


FIG. 3. THE SCHOOL OF TODAY AT PIPESTONE, MINN. G. L. Lockhart, Architect.

A good illustration of a twentieth century type—Schoolrooms dimensioned to fit educational requirements—Orientation carefully planned for satisfactory daylight illumination—Ventilation scientifically designed—Corridors serviceable and economical of space—Stairways easy to climb and in two or more runs from story to story—Exits adequate and well located—Sanitary standards carefully observed—Construction fireproof—Exterior design subordinated to interior requirements—Building planned to avoid waste space and high cost of maintenance.

Such a school system is found at Pipestone, in the southwestern part of Minnesota. It is a typical western city with a population of about 4,000. The city itself is about a mile square, but the school district extends beyond the city limits so as to include seventeen additional sections. The population in the rural portion of the district is estimated at 300, and about fifty children are carried over four routes in busses to and from school.

Pipestone has for years pursued a liberal policy in dealing with its educational problems. Its old school building of which an illustration is herewith given, labelled "The School of Yesterday", indicates quite conclusively that it was a good type, embodying the generally accepted standards prevailing at the time the building was erected. When the fire of April 18, 1917, destroyed the old building, school architecture had made notable advances, and with a progressiveness, characteristic of most American communities, the school board at once set about planning a new structure, in which the advanced educational program of the day should receive full recognition and the new features of schoolhouse design should be properly incorporated. The fruition of their plans is given in the illustration, labeled "The School of Today."

The school has been fortunate in having a superintendent who by administrative ability and long tenure, has rendered invaluable service in the organization of the school and the adaptation of the new building to modern educational requirements. Mr. A. C. Tibbets, who for eleven years has been the head of the school system, retired at the end of the last school year on his own volition with the respect and best wishes of the people among whom he had worked.

The new building, in accordance with his suggestion, was designed for a 6-3-3 school organization. Owing to its central location, all the pupils of the district are housed in this one building in which provision is made for all

grades from the kindergarten to the graduate of the high school.

Briefly stated, the building has sixteen elementary schoolrooms of standard size for forty pupils each, fifteen recitation rooms for junior-senior high school classes, two study rooms each with a capacity for 125 pupils, thirteen other rooms for instructional purposes, including laboratories, shops, home economics rooms, commercial rooms, and a music room, making provision in all for 250 pupils. An auditorium is provided with a seating capacity for 1,000 persons. The gymnasium is 60 feet by 90 feet, with bleachers which afford seating space for 500, and with balconies seating another 500.

Provision has been made so that at any time when the school district may wish to add a swimming pool, the same may be secured without encountering any structural difficulties.

The outside dimensions of the building are 230 ft. 6 in. by 172 ft. The site is 325 ft. by 325 ft. With the building covering 39,646 sq. ft. and with an allowance of twenty per cent of the site, or 21,125 sq. ft., for sidewalks, lawns and shrubbery, there is still playground space for 900 children at one time on a basis of 50 sq. ft. per pupil.

The building is three stories high with floor areas, exclusive of walls and partitions, as follows:



FIG. 5. GROUND FLOOR PLAN, PIPESTONE, MINN. G. L. Lockhart, Architect. Abbreviations: CAP. for Capacity; TIME for Percentage of time room is in use; INV. for Investment.

Ground floor.....	26,644 sq. ft.
Balcony of auditorium.....	4,128
First floor.....	13,280
Second floor.....	19,644
Boiler room, etc.....	2,884

Total floor area..... 66,580 sq. ft.

The school enrollment for the past year has been 1,051, distributed as follows:

Kindergarten.....	63
Elementary grades:	
First grade.....	95
Second grade.....	87
Third grade.....	82
Fourth grade.....	91
Fifth grade.....	90
Sixth grade.....	83
Unclassified.....	10
Subnormal.....	15
	553

Junior High School:	
Seventh grade.....	86
Eighth grade.....	71
Ninth grade.....	111
	268

Senior High School:	
Tenth grade.....	62
Eleventh grade.....	46
Twelfth grade.....	59
	167

A normal capacity for this building would be about 1,300. Three of the classrooms have not been in use during the past year and the full capacity of each room indicated on the floor plans has not been reached, except in some of the grade rooms. Taking the enrollment for the past year and dividing this by the normal capacity, it will be seen that the entire building has been used to the extent of 80 per cent of its full capacity. As the total cost was \$307,360 and one-fifth of the capacity of the building has not as yet been utilized, the school district is paying about \$3,000 annually in interest, com-

puted at five per cent, on an investment that may be said to be unproductive. When, however, it is considered that the school district has in this building made provision for a growth of about twenty per cent of the present enrollment and that such an increase is well within the probabilities of the first ten years' use of the building, the interest paid on this investment

ought not to be considered excessive. In fact, it would show poor judgment on the part of the school board, if it did not give careful consideration to the apparent needs of the immediate future. There is a legitimate cost of preparedness in public education as in public welfare and safety.

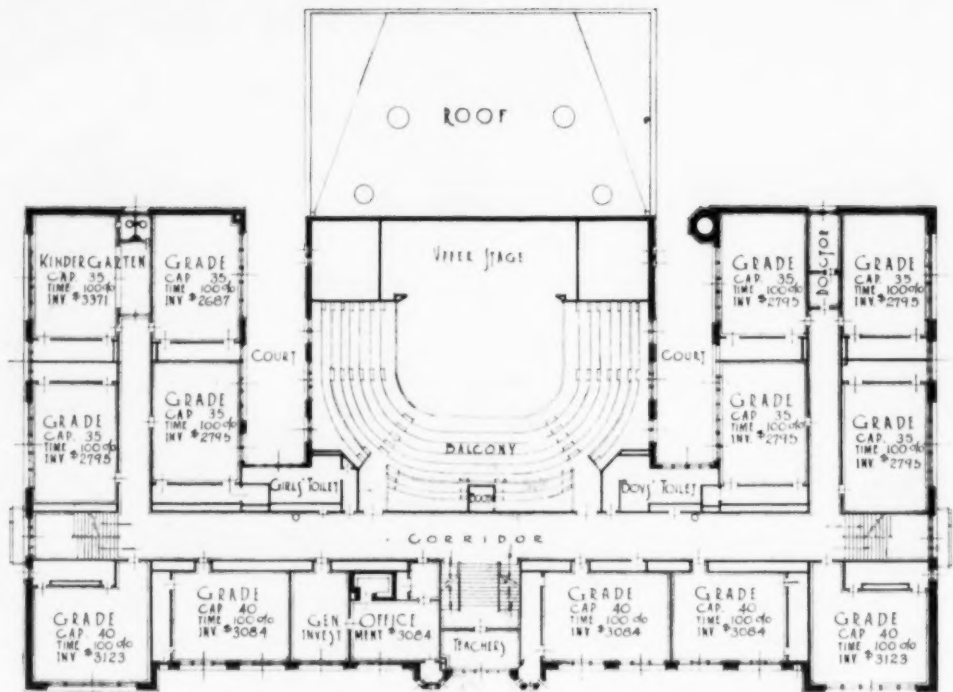


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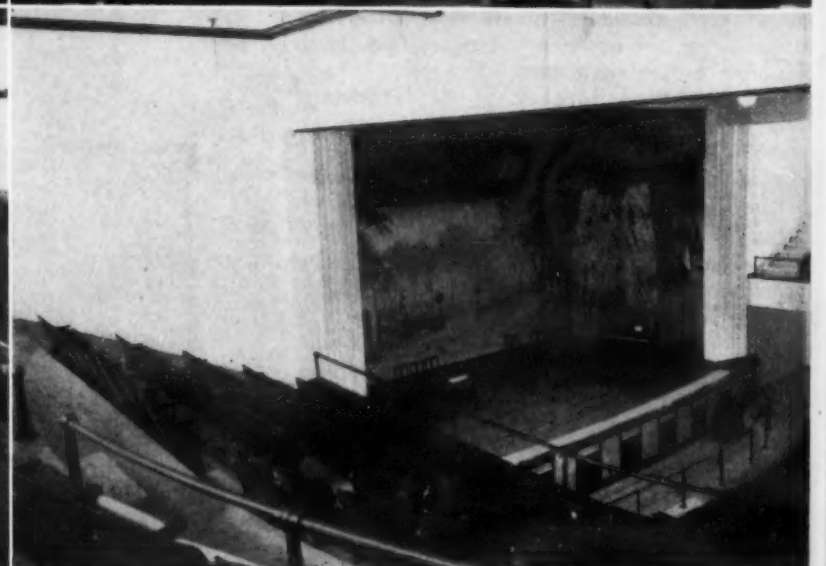
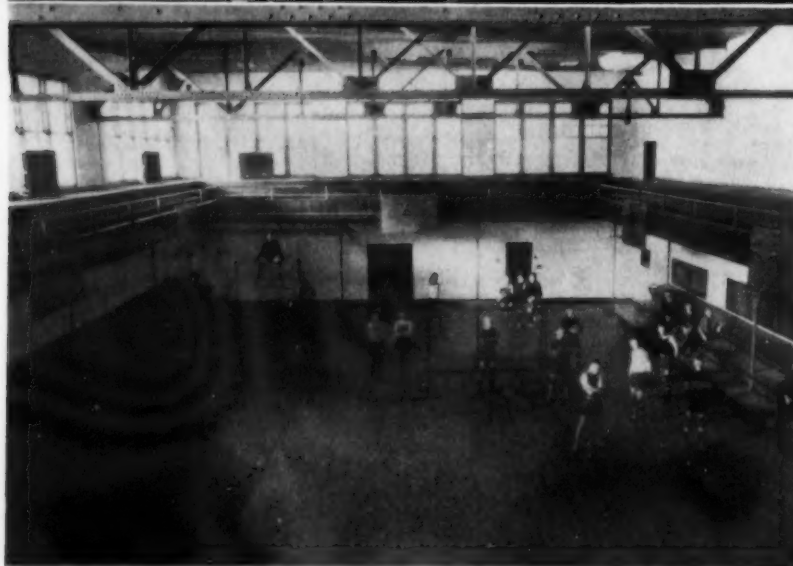
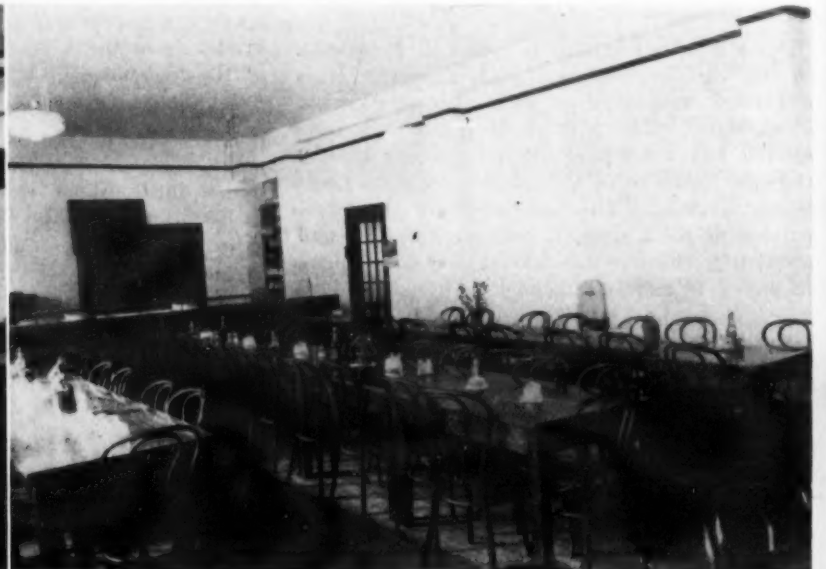


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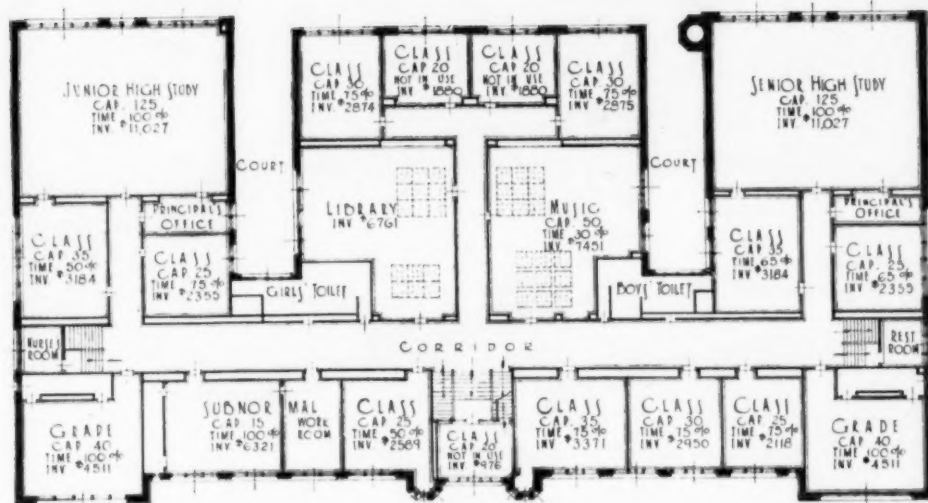


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Analyzing the purposes for which the expenditure of \$84,428.61 was made, it is found that one per cent went for general control; 64 per cent for instruction, including teachers' salaries, library, textbooks, and supplies; fifteen per cent for operation, including janitors' services, building supplies, fuel, etc.; one per cent for maintenance, including repairs of building and equipment; three per cent for transportation of 50 pupils; twelve per cent for bonds and interest; and four per cent for miscellaneous items.

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W. W. Borden, Superintendent of Schools
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The building which is three stories in height and without basement, except for the boiler room, is 358 feet in length and 140 feet in width. It is a plain, square type structure of red brick with white stone trimming. The framework is of steel and cement and no doubt will stand for a century. The rooms are located on either side of a long central corridor and thereby receive the maximum light that is so necessary in a school building. At each end of the building is a corridor extending in another direction with the idea of future additions to the present structure. All of the corridors are wide, with terrazzo floors and yellow face brick wainscoting. In the corridors are located the steel lockers set flush in the walls. There are three main entrances from the principal streets, one from the park on the east and two from the playground on the north.

The building was designed to house 1350 students. It has 32 regular classrooms, besides an art room, a music room, a teachers' room, two domestic science kitchens, a sewing room, a cafeteria, a library, a gymnasium, health rooms, boys' and girls' locker and shower rooms, an auditorium, a varied industries shop, the general offices, a number of small conference rooms, and a number of smaller rooms.

The three large boilers together with the three ventilating fans and other machinery are all housed in the basement. The heating and ventilating equipment is installed in three units and electrically controlled so that any part of the building may be heated without heating all of it. The air is taken into the fans from the top of the building and driven into the various classrooms.

The special rooms such as the auditorium, gymnasium, library, and the cafeteria are conveniently located in the middle of the building.

On the ground floor are twelve regular classrooms, a large varied industries shop, a gymnasium, a girls' locker and shower room, the auditorium, health department and the general offices.

The auditorium is a large room, 106 feet long and 60 feet wide. It is equipped with a stage and two small dressing rooms in front and a store room and book store at the rear. It is also provided with a balcony and picture machine booth. Its seating capacity is 750.

The gymnasium is located directly across the hall from the auditorium. It is 55 feet by eighty feet with a balcony which has a seating capacity of 300. At the rear is the instructor's room and a store room above which is a long narrow room which will be used for corrective work.

Opening from the gymnasium is the girls' locker and shower room. This room is equipped with private shower and dressing rooms, toilets, lavatories, and box and dressing lockers. Under this room is the boys' locker and shower room.

On the second floor are eleven regular classrooms, an art room, a music room and a teachers' room with a small lounging room and lavatory.

On the third floor are ten regular classrooms, the library, cafeteria, three household-arts rooms, and a number of small conference rooms.

Ground floor.....	26,644 sq. ft.
Balcony of auditorium.....	4,128
First floor.....	13,280
Second floor.....	19,644
Boiler room, etc.....	2,884

Total floor area..... 66,580 sq. ft.

The school enrollment for the past year has been 1,051, distributed as follows:

Kindergarten	63
Elementary grades:	
First grade.....	95
Second grade.....	87
Third grade.....	82
Fourth grade.....	91
Fifth grade.....	90
Sixth grade.....	83
Unclassified	10
Subnormal	15
	553

Junior High School:	
Seventh grade.....	86
Eighth grade.....	71
Ninth grade.....	111
	268

Senior High School:	
Tenth grade.....	62
Eleventh grade.....	46
Twelfth grade.....	59
	167

A normal capacity for this building would be about 1,300. Three of the classrooms have not been in use during the past year and the full capacity of each room indicated on the floor plans has not been reached, except in some of the grade rooms. Taking the enrollment for the past year and dividing this by the normal capacity, it will be seen that the entire building has been used to the extent of 80 per cent of its full capacity. As the total cost was \$307,360 and one-fifth of the capacity of the building has not as yet been utilized, the school district is paying about \$3,000 annually in interest, com-

puted at five per cent, on an investment that may be said to be unproductive. When, however, it is considered that the school district has in this building made provision for a growth of about twenty per cent of the present enrollment and that such an increase is well within the probabilities of the first ten years' use of the building, the interest paid on this investment

ought not to be considered excessive. In fact, it would show poor judgment on the part of the school board, if it did not give careful consideration to the apparent needs of the immediate future. There is a legitimate cost of preparedness in public education as in public welfare and safety.

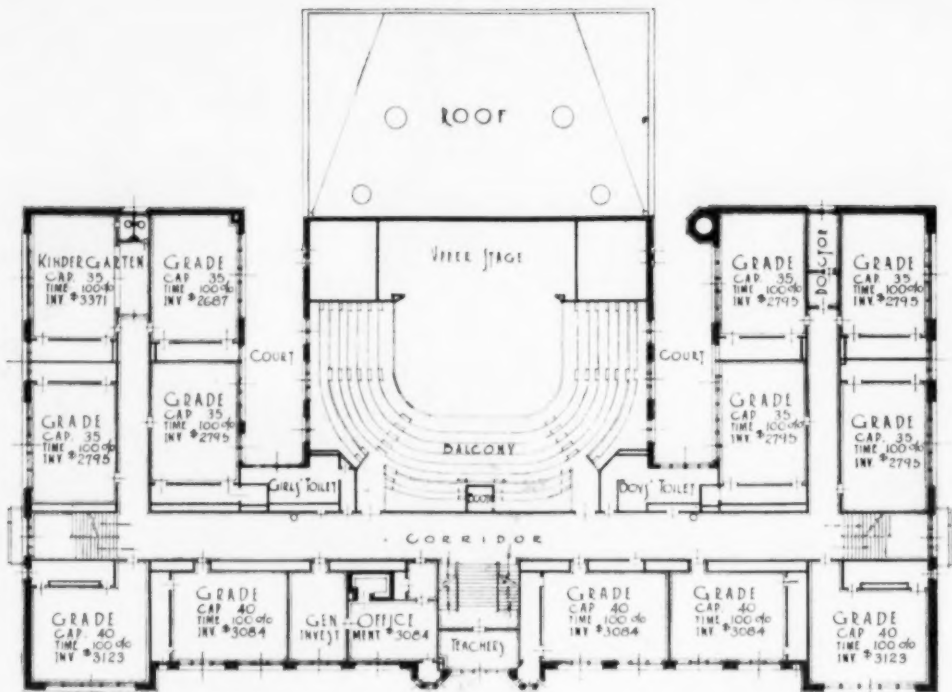


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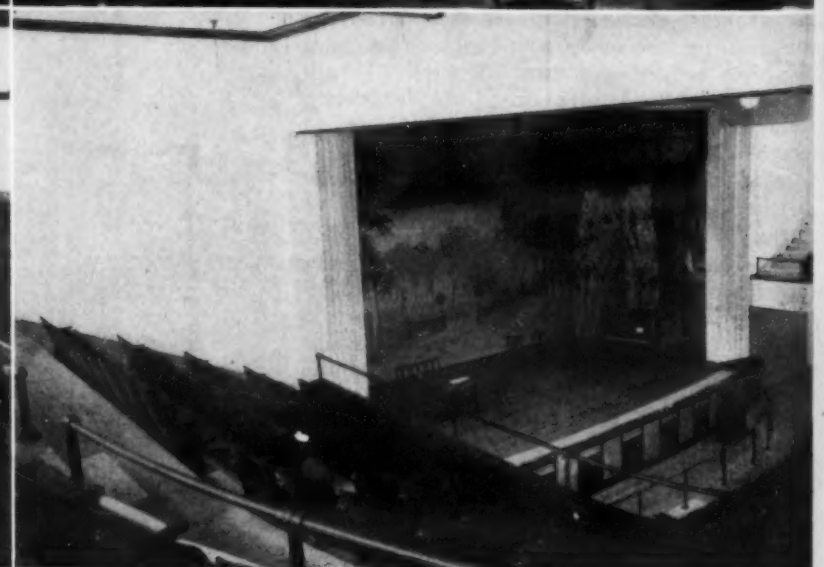
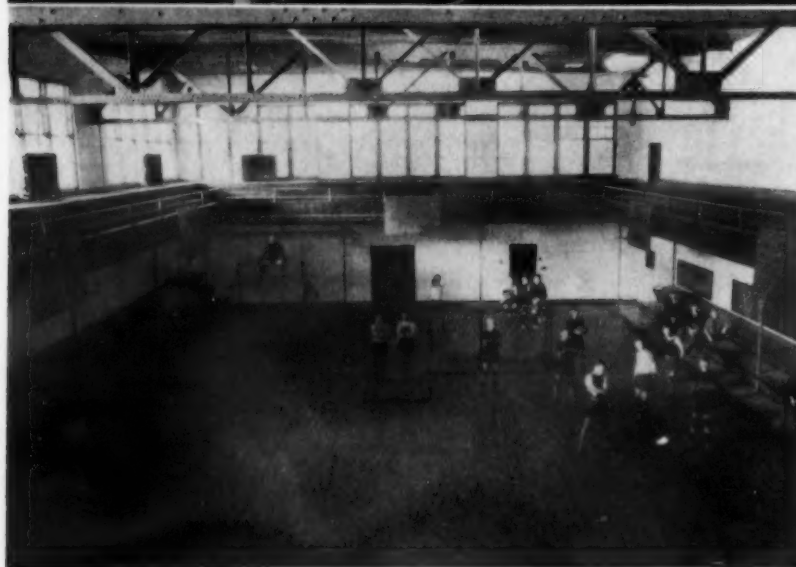
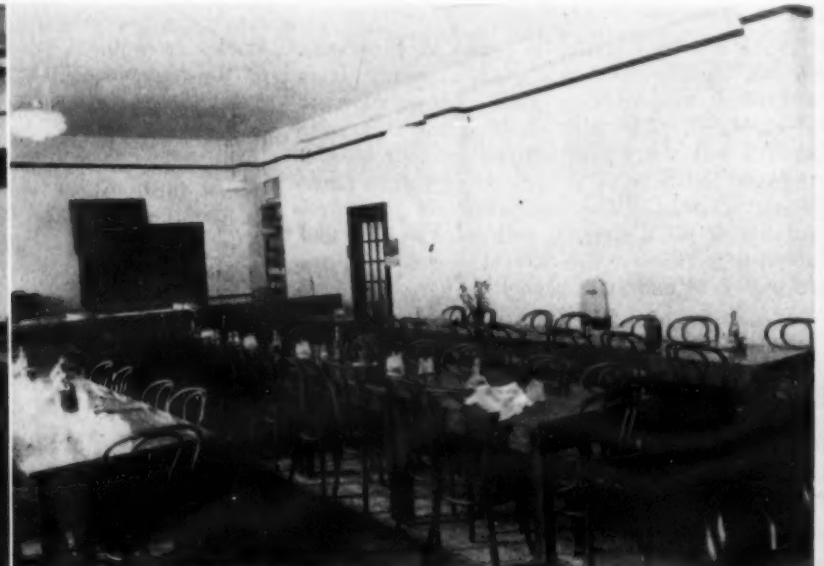


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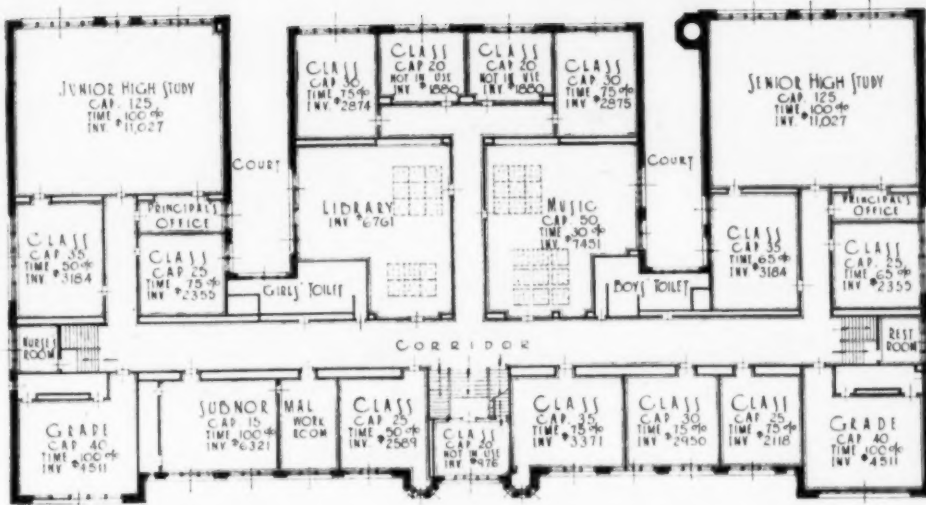


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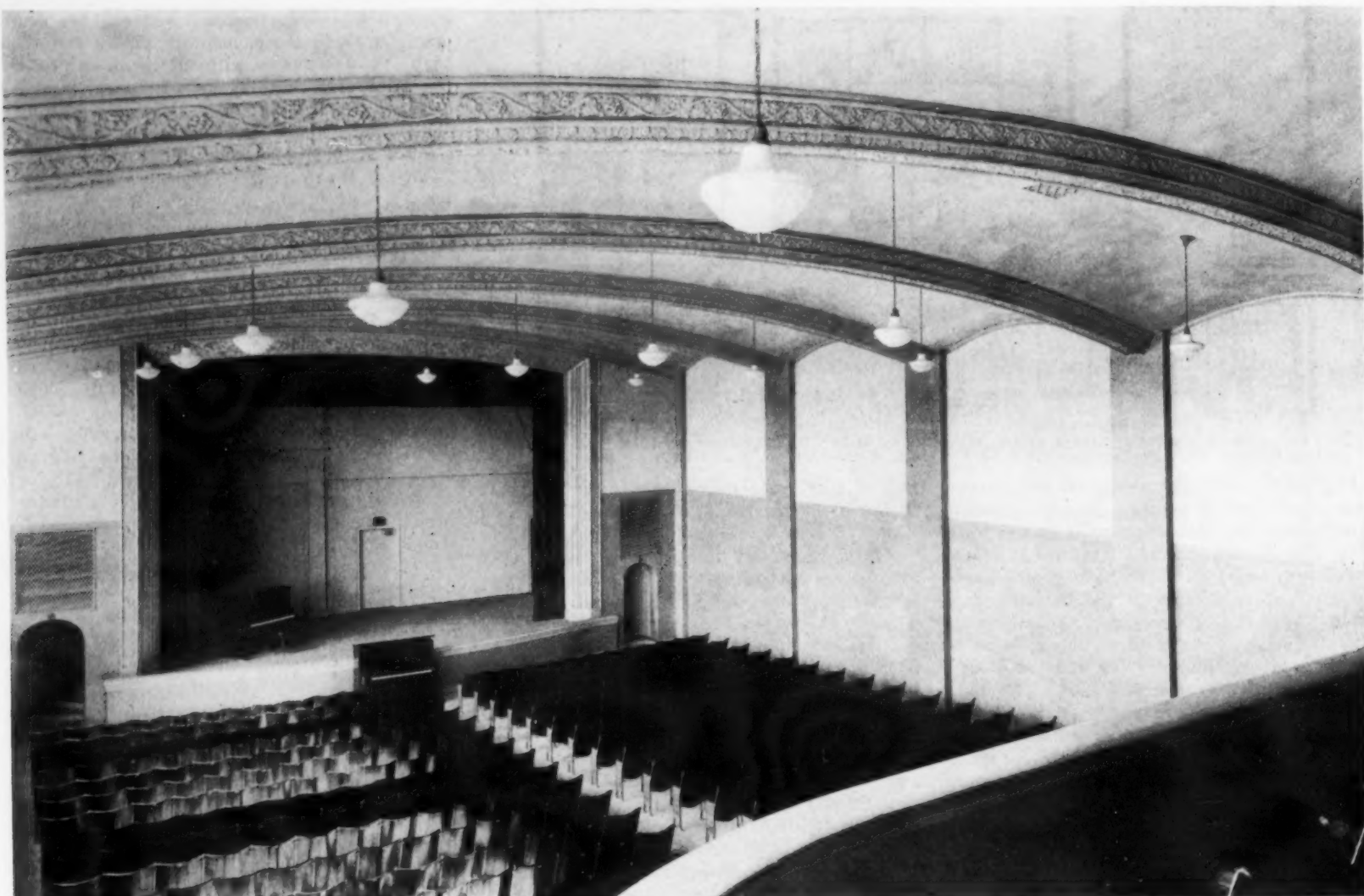
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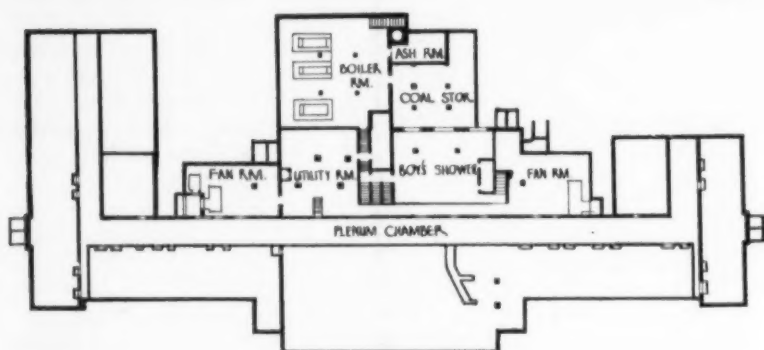
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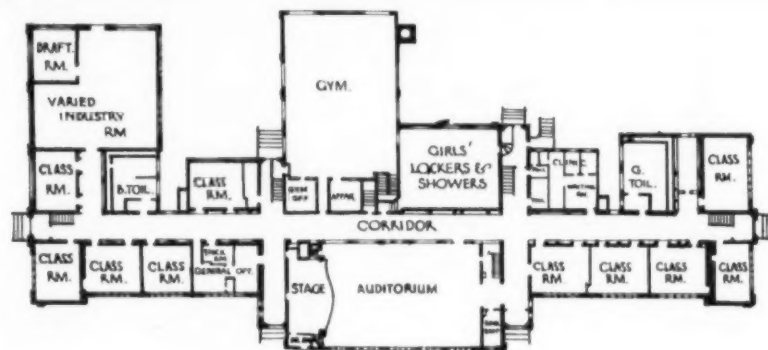
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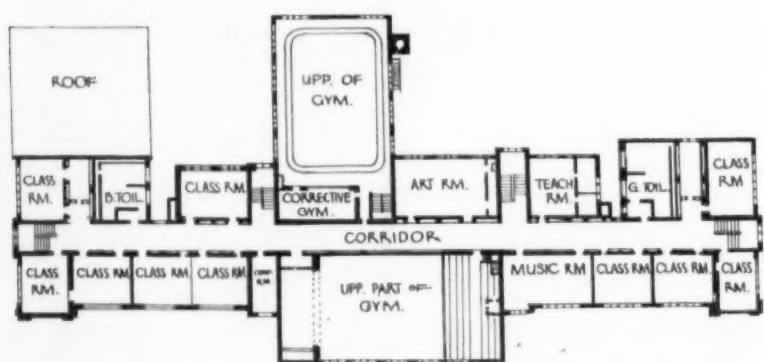
AUDITORIUM.



SUB BASEMENT PLAN



GROUND FLOOR PLAN



FIRST FLOOR PLAN

AUDITORIUM AND FLOOR PLANS OF THE SOUTHWEST JUNIOR HIGH SCHOOL.

Austin & Shambleau, Architects, South Bend.



SECOND FLOOR PLAN

SOUTH BEND, IND.

The library is the most beautiful of all the rooms on this floor. It is the same size as the auditorium with a seating capacity of from 200 to 300 students at a time. At either side are three small rooms for reference study. At the end of the large room is the librarian's room and another small room for storing and dispensing books. The library has open shelving

sufficient to care for about five thousand volumes.

Across the hall from the library is the beautiful cafeteria, a room as large as the gymnasium beneath it. It is an attractive, light room overlooking the park and is equipped with 40 tables and 240 chairs of ivory finish and sage green stripes. From 300 to 500 students eat

their noon lunch here each day. The cafeteria has a modern kitchen with all the modern conveniences, such as dishwasher, gas range, steam ovens, potato masher and cake mixer, potato peeler, dumb-waiter, storage room, and refrigerating plant.

Just off the cafeteria is the housekeeping apartment. Next to the apartment are the two

(Concluded on Page 167)

Inspection of Schoolhouse Construction

Hollis P. Allen, San Bernardino, Calif.

The period of great school building activity through which the United States has been passing in recent years has brought the schoolmen of the nation face to face with a situation for which they have had no specific and little general training. Men who have proved their worth as school administrators and as teachers, have been drafted into the business of building schools whether they have willed it or not, and the excellent results produced in most cases have indicated that these men have met the new situation with fortunate success. To be sure, a dependency on architects, building inspectors, contractors, and school board members has in many cases assisted the administrator in solving the burden of building problems, yet in few cases has this relieved the superintendent of the responsibility which is his.

The building of schools involves a responsibility which is both financial and educational. Our advanced educational philosophy teaches that an educational program should be fitted to the boys and girls rather than the boys and girls to an educational program. Only recently has there been a full realization of the importance of the school plant in administering the curriculum, for the activities of boys and girls are largely determined by environment, and it is through these activities that a large portion of the educational program becomes effective. No one should be more expert in judging the proper educational program than is the superintendent or principal.

Because of his close contact with the finances of the school system, the administrator should know rather definitely how and where the money is being expended. As the executive head of the school or system it is his duty as well as his privilege to be interested in and to guide the building program. In the large school system the executive may find it advisable to delegate the authority to some subordinate officer, yet at all times it must be remembered that the ultimate responsibility still rests with the administrator.

Much has been written concerning the proper planning of a school building. The schoolman who is willing to learn and to study his own individual problems should be able to give the architect sufficient data and guidance to insure a well planned building. At this point the average schoolman generally drops out of the building program, to enter it again only when the building is completed and ready for occupancy. It is the purpose of this discussion to consider some of the problems of the actual building construction, and the proper place of the school authorities in relationship to these problems.

The Three Factors in Building

The system of construction used in America involves three parties: the owner, the architect, and the contractor. Each of these parties may be made up of one or more individuals. The owner desires a certain piece of construction work, and because of his lack of technical training and artistic sense, he calls on the architect to make complete plans and specifications for the work. After the acceptance of the plans and specifications, the architect still assists the owner in the matter of letting of contracts and in supervising the actual work of construction in order to ascertain that plans and specifications are strictly adhered to. The contractor assumes the responsibility of construction according to specifications. Sometimes a single contractor does all of the work involved; sometimes he sublets contracts for portions of the work to others; while at other times the owner himself lets individual contracts to the various

parties for the completion of different types of work.

Because of the large amount of money involved and the subsequent temptation to those who may be unscrupulous, it is essential that a constant check be maintained by those interested in the construction against the introduction of materials or workmanship which is not in accord with plans and specifications. When the construction is a public enterprise, such as a school building, it is the more essential that this check be maintained.

It is probable that less than fifty per cent of the contractors who handle school work are really conscientious in their attempt to carry out the minute specifications of a building. With many contractors the system of substitution of inferior materials and workmanship, or of a reduction of materials has almost become a science. With keen competition this situation has been aggravated. Illustrations of a few common grievances of this type will be given later in the discussion.

The vast majority of architects are honest in their desires to serve their constituency. However, with wily contractors ready to seize every opportunity for financial gain, there are a few among the architects' profession who are willing to work in conjunction with the unscrupulous contractor in a program which is opposed to the best interests of the building or of the owner.

The Building Inspector

The representative of the architect who is on the actual construction is called the "building inspector", "superintendent", "building superintendent", or "clerk of works". It is of interest to note that one of the earliest references to the term "clerk of works" was in connection with the appointment of Geoffrey Chaucer to such a position in 1390. The building inspector is not only the representative of the architect, but he represents the owner through the architect. Most authorities agree that the inspector should be paid directly by the owner, although employed by the architect. Such a situation insures a greater heed for the interests of the owner as well as an insistence on the details of plans and specifications.

The quality of the internal structure of a building is largely dependent upon the building inspector, for it is his duty to constantly inspect and supervise the work as it proceeds. As an insistence on minute and technical details of specifications is costly to the contractor, again we find a point at which the owner and architect need to keep close watch.

It is not the purpose of this discussion to break down the faith which school men place in those who have been their representatives in building projects, nor to belittle the honest effort and service of a large number of contractors, architects, and building inspectors. However, every school man who is contemplating the construction of buildings should know at what points he should most carefully guard himself against the inroads of the unscrupulous. It is his duty to protect the interests of the public in seeing that full value is built into a building, as well as to protect the safety and interests of the children who are to use the plant.

The Superintendent and Building Construction

The school superintendent or his personal representative (other than the building inspector) should keep in close touch with the building operations from the very beginning. This need not take a great deal of time, but it should be sufficient to keep the board informed on the progress of the construction, and to be certain

that some of the most prevalent methods of fraud or of lack of proper precaution are not being practiced. The moral effect of an occasional inspection trip by the superintendent should be great among the contractors, workmen, foremen, and with the building inspector. The scrupulous building inspector will find such visits a powerful "pry" in enforcing his demands concerning construction. The school administrator should realize that his training (normally) does not equip him with data and facts which enable him to know more than the building inspector or architect about the technical details of construction. However, as a good set of specifications states requirements in concise and definite language, the interested school administrator is in a position to ascertain when most work is being carried out in the proper manner. The contact with the building during the process of construction will also give the administrator an opportunity to observe and recommend needed changes with a minimum of inconvenience and expense.

Some Items to Be Checked

In the ordinary concrete or combination concrete and wood schoolhouse construction, the school administrator might well keep in mind the following items, noting especially those which give opportunity for covering up by later work, or those not easily detected.

1. *Layout of foundation.* Check placement of foundation lines with streets, as well as actual over-all dimensions. A few inches taken from the dimensions of a building means money in somebody's pocket.

2. *Excavations.* Check basement excavations for depth. Check depth and width of foundation excavations. A fraction of an inch in either direction may be tolerated, but if the variation is consistently in the favor of the contractor, rectification should be demanded. A show of rigid inspection at the beginning of building operations may save much trouble later in the game.

3. *Materials.* Such articles as cement and reinforcing steel may vary considerably in quality as well as in quantity or size. The practice which some architects have followed in allying themselves with a standard and reputable engineering testing organization is a great protection to the builder. Such a testing organization maintains experts at factories which manufacture these building products, and after rigid tests on samples from each batch of material, place a tag which guarantees certain minimum standards for each article. For instance, the expert located at the steel mill will take samples from a certain batch of reinforcement steel. These samples will be thoroughly tested as to weight, strength, composition, size, etc., and if these pass satisfactorily, the entire batch of steel from which the samples were taken will be reserved by the testing organization and tagged, as an insurance to the purchaser. Similarly, batches of cement are tested by experts of the testing organization at the factory, and sacks from the tested batches are labeled as a guarantee to the builder. In this manner protection is given against cement which is overburned, which contains too large a proportion of clay, etc. It is thus evident that the architect who specifies materials passed by the reliable testing organization precludes chances of poor materials. The expense of this insurance is nominal. Watch for the inspection tag.

Concrete and Concrete Reinforcement

4. *Forms for concrete.* Check forms for perpendicular and width. Forms are wired together, with wires drawn tight against blocks of exact width of finished wall. When blocks are knocked out, the forms may be slightly

closer together than wall thickness, but expansion due to weight of wet concrete brings them to proper thickness. Make certain that walls will be specified width at the various heights of construction.

5. *Fireproof walls.* Check existence of specified fire walls and fireproof slabs over heating plant, etc.

6. *Placing of reinforcement.* Because of its hidden nature, some of the greatest reduction of labor and material as specified may be in the reinforcement.

(a) Check reinforcement steel bars for cross-section size.

(b) See that every piece placed is firmly anchored to something, as loose bars will "float" in the concrete and become misplaced as the concrete is worked.

(c) See that every piece of steel is placed in the proper position and that cross-pieces, tie rods, etc., are the right distance apart and running true.

(d) See that all bars are securely tied with wire at intersections.

(e) If possible, check the total amount of steel reinforcement going into the building.

Bars must be properly placed for maximum strength and in order to protect against fire. Reinforcement too near the surface will soften in case of fire, thus weakening the structure.

7. *Internal plumbing.* If under a separate contract, care must be taken to see that all pipes which need be within walls are properly placed and tested in the forms prior to the pouring of concrete. This also applies to electric conduit. The rights of sub-contractors for time for and access to their work must not be hampered. Drain pipes from chemistry laboratories which are placed within walls should be of a material which will not be damaged by chemicals. In all internal plumbing care should be taken to assure that:

(a) Outlets at proper places are provided.

(b) Access is provided to portions which may need repair, etc.

(c) Joints are tight.

(d) Materials are as called for (i. e., galvanized pipe is used where called for rather than a substitution of black pipe, etc.)

(e) Proper slope is provided to pipes which must drain.

Mixing and Placing Concrete

8. *Mixing of concrete.* Check the time given to the mixing of a batch of cement as well as the quality and quantity of materials. Gravel and sand of various sizes should be used, and the proper proportions maintained. By determining the capacity of a standard "buggy" used in charging a concrete mixer, and knowing that a sack of cement is computed as a cubic foot, the determination of the mixture may be easily computed from observation of the process. "Buggies" with denting, which will permit a larger amount of material than normal, should be excluded from the job. Specifications will probably demand 60 seconds of mixing to each batch of concrete. Slighting this time is a saving to the contractor and a detriment to the building.

9. *Pouring of concrete.* Specifications will probably demand that the concrete walls be carried up at somewhat the same rate over all of the building. This makes a frequent change of staging necessary for the contractor, yet it insures a better cured and stronger wall. Unless watched, most contractors will not heed this requirement. Walls should be kept damp as required in the specifications in order to insure proper curing and to prevent cracking.

10. *Timbering of roof, partitions, etc.* Check material used in order to ascertain that lumber used is first class (if specified), straight, proper size, etc., as specified. Nailing or bolting should be sufficient to hold material in place and support load, with large factor of safety.

11. *Placing of furring.* Check existence of furring where called for, as it is important as an insulation against damp, noise, and cold. It is often possible to plaster directly on concrete or brick, although furring be specified. See that furring brings finish proper distance from wall.

12. *Plastering.* Check number, thickness, and quality of coats, making sure that finish is as called for and that it presents a true surface on which trim may be placed.

13. *Flooring.* When of wood, check material, laying and finish. There are several grades of flooring.

When concrete, check finish and composition of top. A good wearing surface of concrete should contain sand and more cement than rough aggregate.

Interior Finishing

14. *Trim.* Check the quality of the wood utilized. Check the placing of trim as to joints, sanding of surfaces, fitting to irregularities in the walls, etc. See that all moulding, shelving, etc., called for in the specifications is included and properly placed. Check "hang" of windows and doors. Check thickness of window glass furnished. Check the placing and the quality of hardware.

15. *Painting.* Check the quality of the paint used, as well as the number of coats placed, color, finish, and cleanup. Paint which contains any quantity of distillate or other cheap oil should not be used, nor should any amount of these dilutants be permitted on the job. An analysis of the paint used would often be helpful. Check sanding or rubbing of finish between coats and on final.

16. *Plumbing.* Check fixtures installed as to quantity, quality, placement, and proper operation. Check pipes hanging beneath floors for proper support and slope. See that vent pipes are discharging at proper locations.

17. *Wiring.* Check number and type of fixtures, globes, controls, etc. Make certain that clock system is operating correctly, especially that secondary clocks are synchronizing with the master clock and that they maintain their positions over a period of time. Check placing of bells and buzzers. Check types of telephones as well as actual use of the system.

18. *Floor covering.* Check placing of linoleum or other floor covering, including gluing, felting, waterproofing of floors underneath, etc. See that linoleum does not measure less in thickness than minimum specified.

19. *Blackboards.* Check material furnished. See that the blackboards are given proper support and backing and that joints are well made. Joints in slate should be cemented and ground until they are hardly noticeable.

20. *Heating system.* Check material furnished and adequacy and neatness of installation. Before acceptance, heating plant should be subjected to a rigid test under actual adverse conditions of temperature. Check efficiency of draft and of burner. The only real test of a heating plant is the ability to heat the school sufficiently on a cold and windy day.

21. *Ventilating system.* Check the volume of air delivered, and ascertain that the distribution is equal. Check humidity and temperature controls. See that blowers, etc., are well installed and that they operate with a minimum of noise. Slow speed blowers are most efficient and satisfactory for school work.

A Case of Neglect

The foregoing list of items which the school administrator may well keep in mind during the progress of building the school is by no means complete. It is submitted as suggestive of other similar items and to show where inspection need be most rigid. Illustrations of actual cases which have needed inspection may be to the point.

Case 1. A small and remote community decided to build a \$100,000 building for its schools. The architect, ordinarily known as one of the most prominent school designers of the Pacific coast, offered to reduce his fee substantially if he could be relieved of the responsibility of having an inspector on the job. The board, thinking of this offer as a means of saving money, readily agreed. The principal of the school, not knowing much concerning building, nor realizing the importance of inspection, permitted the building to be constructed without inspection of any type. A few of the typical results were as follows:

1. Where five large hoods were specified for the chemistry laboratory, one was built, and this one was eight inches in depth.

2. Concrete walls specified at 10 inches in thickness at the second floor were not more than half this amount.

3. Concrete used in floors and hallways had little wearing ability.

4. The heating plant was such a failure that each winter produced several days during which school could not be maintained, and attendance was lowered through several months of the year by cool rooms. A forced draft introduced after two years of experimentation, overcame a portion of the trouble.

5. Pipes for condensation return from radiators to the boiler in many places ran "up hill", and sagged at other places due to insufficient support. The natural result was several "dead" radiators, until the trouble was discovered after two years of attempted use.

6. Windows fitted so poorly that the heating problem was greatly aggravated and janitorial service increased because of dust entering the building.

7. The telephone system from room to room never functioned, in spite of extensive and expensive equipment.

8. The clock system failed to synchronize, and the master clock gave much trouble, all of which upset the regular routine of school life.

9. Wiring, supposed to be in conduits, was strung through studding and beams, and each outlet was equipped with a metal outlet box which gave the external appearance of a thoroughly conduited system.

10. Paint peeled from the exterior of the building in less than a year, while the interior finish dissolved when an attempt was made to wash it.

11. The building settled with the result that plastering, concrete, etc., cracked.

There can be no justification of a "penny wise, pound foolish" policy such as was recommended by the architect involved and which the board accepted. Had the principal of the school (there being no superintendent) realized his obligation in connection with this building, he might have been able to save the community thousands of dollars in value lost to its building, and at the same time have made a building which would have cost much less to maintain as the years go on. The inconvenience alone in heating the building for a year would more than have justified the employment of a competent building inspector for the period of construction. In the absence of an inspector, the principal might well have performed many of the most important functions.

How Vigilance Prevented Fraud

Case II. A progressive community has built a school costing something over \$100,000. A competent and exacting building inspector was employed. Because of the fact that he demanded that specifications be carried out as specified in the contracts, several of the contractors claimed that they had actually lost money on the job. In other words, they were able to "ease off" on specifications to such an extent that they expected to be able to deliver less than was called for in the contract. The firm employed as



LIBRARY OF THE ACADEMY HIGH SCHOOL, ERIE, PA.

Wm. B. Ittner, Architect, St. Louis, Mo.

"general contractor" claimed a loss of \$1,500 because it was forced to do what it agreed to do when signing the contract. A few of the means by which the contractor attempted to slight the job were as follows:

1. Foundation trenches were uniformly one inch shallow.
2. An attempt was made to run batches of concrete 45 seconds instead of 60 seconds in the mixer.
3. An attempt was made to fill forms completely at one portion of the building at one time, rather than bring all up at the same general rate.
4. An attempt was made to tie only a portion of the reinforcement intersections.
5. An attempt was made to reduce the reinforcement steel by eight tons.
6. Shelves were not placed as specified, although the specifications were very clear on this point.

The situation regarding the reinforcement steel is rather interesting. It seems that the steel company which obtained the sub-contract for placing this material works on a "bonus system". By this system all material and workmanship which is saved over that which is estimated (specified) for a job is given a cash value and pro-rated among the men involved, reaching from the shop foreman down to the workmen placing the reinforcement. It is stated that architects have been known to participate in this robbery which is politely called a "bonus system". The possibility of being discovered is very slight due to the fact that all reinforcement is covered soon after being placed.

Between the two extremes as given in Cases I and II there is a broad range of quality of inspection on buildings. No inspection which is not rigid and scrupulous is satisfactory. Contractors take jobs knowing exactly the plans and specifications to be followed, and they should be held closely to these except by special arrangement to which all parties concerned agree.

Some Pertinent Conclusions

Because of the responsibility which is his to protect the financial interests of the public and the educational and safety interests of the children, the school administrator should keep in touch with school building operations during the period of actual construction. It is during this crucial period that abuses are prevalent, and many schoolmen have been singularly lacking in an attempt to shoulder the responsibilities which are thus brought to them. A healthy interest in the actual building processes and materials will be welcomed by scrupulous architects and inspectors. Many of the checks which the school administrator may make on the buildings are not technical in nature, and may be ascertained from a study of the plans and specifications.

The day when public school construction work is considered as a source of plunder for dishonest contractors and architects should be in the past. The wide-awake school administrator will demand a respect for public funds and for the rights of the children who are to utilize buildings.

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THE BUILDING INDUSTRY TURNS TO MINERALS

The building industry is engaged in the task of changing the framework of American life. It is the mineral, not the vegetable kingdom under whose aegis the civilization of tomorrow will be reared.

The construction industry is next to agriculture, the nation's leading industry. Here minerals have made the most spectacular inroads on wood. In building construction generally the demand for wooden scaffolding increases with the use of steel and stone construction. The paper industry consumes large quantities of wood for the pulp out of which most paper nowadays is made. In direct contrast to the timber cut as a whole, wood cut for pulp has shown an almost continuous growth, with the curve still on the upgrade and no end in sight.

The spectacular increase in the cost of wood and the failure of prices of brick, cement and other mineral products to follow suit have combined to make the architect and the owner hesitate considerably in deciding whether to sacrifice permanence to immediate economy in planning their building program. Even at the peak of the lumber price rise, it cost much less, of course, to build a house of wood rather than of brick or steel and stone.

Again, the fire hazard is another factor in the triumph of stone over wood. Compared with other civilized countries, the annual fire loss is staggering. In 1922 it was \$4.63 per capita, compared with 72 cents per capita in Great Britain. This is not due to inefficient fire departments, but to the simple fact that buildings abroad are made of stone and brick, while here they are still largely made, or at least framed, of wood. Led by the fire insurance companies, a movement has spread in most of the cities pro-

(Concluded on Page 167)

School Ground Development in Village and Consolidated Schools

Keith C. Harder, Ames, Ia.

The building of the consolidated school has initiated a new era in the life of the farming community. It has brought to rural people, trained teachers, modern school buildings, modern equipment, and with all these, modern ideas. The farmer attends community meetings in the consolidated school and while there he develops a desire for its modern conveniences, such as electric lights, running water, and heating system. In the same way that the school has functioned in creating a desire for these modern conveniences, it will also function in creating a desire for better planned and more beautiful homes, especially when the consolidated schools have their grounds planned and improved. Our consolidated schools have had a great influence already in the lives of farmers, but they still have great opportunities for the development of the right ideas of planning and beautification of the farmstead.

In the middle west the farm homes are in a transition stage. They are coming to the point where they will have to be rebuilt. The farmers naturally desire the modern conveniences in these new homes and they also want them to be permanent. A few of them are realizing that there is a practical as well as an aesthetic value in the way in which the buildings are located in regard to each other. The original windbreaks of cottonwood have begun to decay and their value is becoming less and less each year. The farmers are wanting something permanent—something that will last for several generations—and they are willing to build for the next generation.

Influence of Well Planned Grounds

Now, just what relation has all this to the development of school grounds? The kind of a home the farmer plans, with the arrangement of buildings, trees, lawn, shrubs, and windbreak will be largely determined by the ideas that he picks up. If the consolidated school has a well-planned school ground which shows a neat, well-balanced, and convenient arrangement of buildings, play areas, walks, shrubs and lawn, it will be a source of ideas and inspiration to the farmer to build his home in the same planned way.

The development of the school grounds involves the correct location, orientation, and setting of the building, the allotment of space for service areas, space for planted foreground, background, windbreak, and garden, and the location of the outdoor quarters for physical education and recreation. In the beginning all the improvements should not be undertaken at once, yet a suitable plan must be made at the outset and adhered to in developing the site.

Ordinarily, it is best for the school to secure the services of a capable landscape architect to plan the school ground development. In Iowa, whenever this is impossible, which is usually due to lack of funds, the Landscape Extension Service of Iowa State College is willing to assist in the making of a plan. Upon request of the board of education or the superintendent of schools, a representative of this department arranges with the board to meet them in the afternoon and to give a slide lecture in the evening.

The Landscape Architect's Service

Usually the board expects the landscape architect to have the plan all ready to present for their adoption. However, he looks over the grounds instead, makes a rough sketch showing dimensions, location of buildings, walks, trees, and other details. He uses the afternoon meeting in explaining the importance and value of the development of school grounds. He gives the board members typical plans to examine

and uses his efforts to get them acquainted with the benefits and practicability of school ground improvement. The slide lecture in the evening serves as a means of acquainting the people with the possibilities and advantages of farmstead and school ground development. The representative attempts to arouse a permanent interest in, and an enthusiasm for, the actual development in that community of better planned homes as well as school grounds.

If he is successful in getting this interest, he rests assured that the development and maintenance of the school plan will be provided for. Sometimes the superintendent wishes to use the making of the sketch of the school grounds as a project for his pupils. He arranges a contest in which a prize is offered for the best drawing, and the sketches are sent in to the Landscape Architecture Extension office where the best one is chosen. Various plans of a similar nature are used in other states.

What has the landscape architect accomplished by his visit? He has shown the people of that consolidated school district the value and importance of school ground development and the means by which this end can be accomplished. They have become acquainted and educated to some degree about it, and they will respect and protect and feel pride in it as it is developed.

Points in a Good Plan

In the Extension Office at Iowa State College the plans are made from the sketches under the supervision of Mr. C. H. Diggs. These plans must be approved by him before they are sent to the school. The plan which is made out in this way undoubtedly is very satisfactory, but how is a person who is not familiar with landscape architecture to determine a good plan from a poor one? The points listed below should be considered in judging a plan:

1. Buildings.
2. Play areas and apparatus.
3. Provision for athletics.
4. Service area—bus barn, drives, parking areas, loading platform, turncourt.
5. Walks.
6. Lawn.
7. School garden, orchard.
8. Vines, flowers.

Frequently buildings are located and built before the landscape architect ever sees the school plot, yet we should always bear in mind that buildings should be set back not less than one hundred feet from the street, and should be located at one end or side of the plot, thus reserving the other part for playgrounds and athletic field. The space that is left between the building and street or highway forms an excellent setting for a picture in which the building serves as center of interest, framed by the trees and shrubbery in the background.

The play areas in a school plot are of prime importance. The ground should be so arranged that these areas are large enough to give plenty of space for the recreation and games of the children. The play area should be leveled and around the play equipment where the area is likely to become muddy it should be surfaced with torpedo gravel. This is a fine water-washed gravel, a little smaller than a double-B shot. It is nearly round and should be put on to a depth of about one-half inch. If the ground is well graded and well drained, this makes a fairly satisfactory surface.

Provisions for Play

The play apparatus for small children should be located near the building and to one side. Many schools make the mistake of not having enough equipment. At Whiting, Iowa, the

school has a row of equipment along one side of the school ground. Since it was put up, the number of cases of discipline on the school ground has decreased over fifty per cent. This school is also a splendid illustration of the value to be gained from setting the apparatus up in a permanent way. The apparatus was set up in concrete foundations and after two years' wear the equipment is still in fine shape and looks usable for several years to come.

The play apparatus on a school ground should include sand bins, swings, see-saws, slides, giant strides, horizontal bar and horizontal ladder, trapeze, and parallel rings. The giant stride, horizontal bar, and ladder, the trapeze and rings are for the larger children and should not be located close to the other play apparatus as it might result in injury to the smaller children. The apparatus should be placed at the side, having the general play space open. Usually most of the equipment can be made locally except such parts as the head of the giant stride with its ladders and the slide which are usually cheaper to buy than to make.

In addition to the play areas for the smaller children, there should be adequate areas laid off for the use of the older boys and girls. These would include areas for volley ball, basketball, tennis, playground ball, baseball, football, running track, and field events. These areas should be so laid out that they do not encroach upon each other. The need for these to be located definitely is seen when we find a group of the larger boys frequently putting up a basketball court in the middle of a play area and thus depriving many other children of the use of their play area. The areas for such activities as volley ball, tennis, and basketball, may be placed on the borders of the play areas and will not require as much space.

The most satisfactory area for the children's play is one that is level, yet over one-half of our schools allow their pupils to play on uneven ground that often causes unnecessary sprains and other injuries. The track, playground ball, baseball, and football areas should be near each other. Oftentimes the baseball diamond is a part of the football field. These areas should be laid out with definite markings so there will be no need of their relocation every year. The ideal surface for most games is grass, and for practically all playgrounds it should be possible to keep grass on a part of it.

Service Areas, Driveways and Walks

The service areas are very important since the practicability of a plan is easily determined by the way in which these areas are laid out. One of the first things to be determined is the location of the bus sheds. Frequently we find them encroaching upon the athletic field or play area with plenty of wasted space on other parts of the school plot. They are best placed some distance away from the school building and should be neat and inconspicuous in appearance.

Usually one driveway into the school service area is sufficient, and it should be wide, hard surfaced, and curbed. The service area should be large in size, hard surfaced and either adjoining the turn court or large enough that it can serve as a turn court. The loading platform should be of concrete at least ten feet wide and close to the building. Oftentimes it may adjoin the street if there is not too much traffic.

One of the most vexing occurrences that happens at a consolidated school is the cutting up of the lawn and play areas due to the parking of vehicles upon them. The reason for this is

that most consolidated schools do not have an adequate parking space for the automobiles when community entertainments or public gatherings are held. The best way to meet the situation is to increase the size of the service area and bus court until it will accommodate the cars. If this area is well marked and of adequate size, there will be little trouble caused by the cars cutting up the playground or lawn.

One of the first things constructed after a building is finished is the walks. Usually these are planned by some local enthusiast or board member who thinks it would be well to have the walks wind around through the school plot and give an artistic finish to the grounds. The walks should be direct, yet they should be so arranged that they do not cut up the play areas. They can be so planned that they follow borders and still be reasonably direct. The most important thing, however, is for them to be wide enough. Too often we see a narrow walk with a wide strip of bare earth on each side of it. Frequently some misguided person wants to plant shrubbery along the walk to make the boys and girls keep on it. If he does, the inevitable result will be that the shrubbery will be trampled out, because children will not and should not be expected to respect such plantings when the walks are too narrow. The main walk should be eight feet wide and the secondary ones at least six feet wide. The intersections should have curved corners to facilitate turning.

Lawns and Gardens

Every school should have a lawn area. This is best located in the foreground of the building, and may be surrounded by a low hedge. Many schools complain that they are unable to keep the children off this area, but upon investigation we find that there is no other place for them to play! When the keeping of this area is put up as a cooperative enterprise in which all take part, it will not be difficult. Of course, if it is only a bare space of ungraded, unsightly ground, the children can see no value in respecting it; but if it is leveled, seeded, and a nice lawn is started upon it, the pupils will take much pride in protecting it.

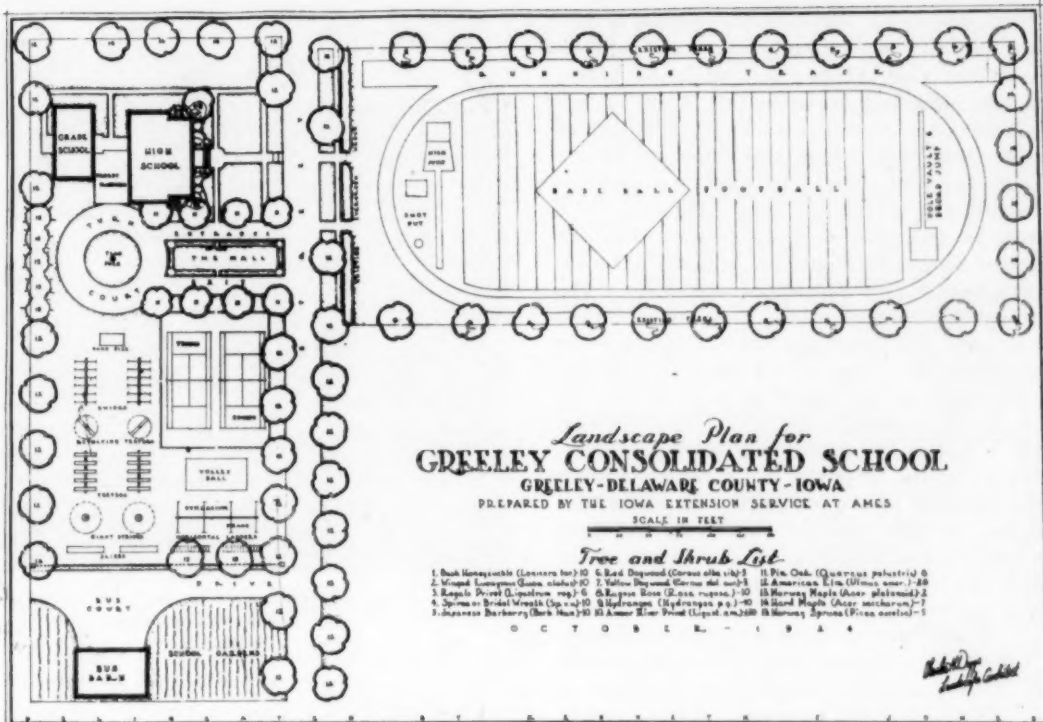
In my opinion, in the planning of school grounds, the areas already discussed are of the greater importance; yet in the consolidated school there should be set off an area to be used as a school garden. This area need not be large, but it should be placed upon some part of the ground that is cultivable. This area is of increasing importance since many of the schools are teaching vocational agriculture. In one corner of the school plot it is well to have a small orchard. The fruit which this will produce will be of minor importance, but it will furnish motivation for school work if the agriculture class keeps these trees pruned, sprayed, and cared for.

After the school ground has been planned with due regard to order, convenience, and practicability, comes the question of planting. Vines, flowers, shrubs, and trees add a great deal to the attractiveness of the school layout, yet if the plan is not orderly, convenient, and practical, the addition of the shrubs and trees will not make up for the lack of a good plan. A few scattered shrubs will do little to break up the straight lines of a building, while a few large, well placed clumps where the shrubs can be planted by the dozen will give the desired effect. As the school building is occupied only during the winter months, the planting should be mostly for these months and should consist largely of shrubs and other plants that make a good appearance in winter.

Planting Suggestions

Some plants which are good for this purpose are:

Regel's Privet which is good to put under trees.



PLAN FOR A COMPLETE RURAL SCHOOL PLOT.

Japanese Barberry which is low growing and has red berries in winter. It is also valuable from the fact that it has thorns for protection.

Rosa Rugosa which is low growing, has heavy foliage and red apples in winter.

White Snowberry which is also low growing, has white flowers all summer and white berries all winter.

Spiraea Vanhouttei or *Bridal Wreath* has long branches of white bloom in May.

Red Twigg Dogwood, medium growth when properly pruned, has red twigs for winter effect.

Yellow Twigg Dogwood is very similar to the red in value and growth.

Every school ground should have trees—some to furnish shade for the children and a few for ornamental purposes. A few trees will add greatly to the beauty and comfort of a school ground, yet probably one-half to two-thirds of the trees now in school grounds ought to be taken out. A tree is a fine thing in itself, but a tree in the middle of a baseball diamond is a nuisance. No tree ought to be planted on a school ground without a definite plan. The best place for trees is around the school ground, along the driveways, and around the play area. We should never plant any trees in the play areas.

It is quite important to know what kind of trees to plant. In the middle west we need trees that are able to stand windstorms in summer and sleet storms in winter. The *Pin Oak* is probably the best to plant along the street, as it has a compact root system, rapid and symmetrical in growth, and needs no trimming. The *Norway Maple* is another good street tree; the *Hard Maple* is long lived and free from disease. The most typical American tree is the *American Elm*. The superiority of these trees for withstanding high winds was shown very vividly last summer on the Iowa State College Campus. A cyclone crossed that section of the country twisting and breaking many of the trees, yet the types just mentioned were almost free from harm.

Windbreaks—Vines

The windbreak is a very important consideration in our open country consolidated schools. A good windbreak, composed of two or three rows of evergreen trees, will give adequate protection and serve as an illustrative lesson in windbreak planting. Some of the best varieties to use for this purpose are *White Pine*, *Norway Spruce*, *Cedar*, *Red Pine*, *Black Hills Spruce*. The windbreak is best located on the north and

west sides of the school ground as these are the directions from which the cold prevailing winds of the winter come. The windbreak should always be located far enough from the buildings to avoid the drifting of snow about them in winter. The distance should be not less than fifty to one hundred feet.

The use of vines is the quickest way we have of relieving the newness of a building. In a comparatively short time they will give it the appearance of age. Vines are of quick growth, and are very useful in screening bare, uninviting walls. Some buildings look best when covered over with vines, while others look best when only a corner or doorway is covered. To cover an entire wall, *Engelmann's Ivy* is the hardiest and will make the fastest growth. This vine is used to beautify several of the buildings on the campus at Iowa State College. The *Bitter-Sweet* is a vine found locally in most parts of the middle west which can be used to cover a small area such as a doorway or a corner. It has clusters of red fruit in the winter. The *Boston Ivy* is very beautiful with its autumn colored leaves, but it is not as dependable as *Engelmann's*.

The use of flowers as a means of school ground improvement is of questionable value. All the planting should be done with the thought of the winter effect as well as that of the summer. What may be a beautiful bed of flowers in the middle of the lawn in summer, becomes only a heap of uninviting earth during the school year. If flowers are used at all, they should be in blossom before school closes in the spring. Bulb flowers like *Tulips*, *Narcissus*, and *Crocus* could be planted under the shrubbery near the building, in the fall, and they would blossom very early in the spring. Other than a few cases like the one mentioned, flowers have little use on the school ground except in a flower garden.

Maintenance Essential

When the plans are accepted for the development of the grounds, some arrangement should be made for their maintenance. This is much more important than many people realize. Frequently schools spend money for expensive trees, shrubbery, and a nice lawn, and then fail to provide for their proper care. This maintenance would require the greatest amount of time during the summer and it would be logical to assign this work to the janitor.

The carrying out of the plan is the problem of the school and community. The plan should

be put up in a conspicuous place in the school building where everybody can study it and see just what things are to be done. Whenever the volleyball or basketball court is laid out, it should be placed just where it was located by the plan. On Arbor Day, when trees are set out, the plan should be consulted and the trees put just where the plan suggests. If a change in the plan is thought desirable, the architect should be consulted and his approval secured before any alterations are made. The right development of school grounds is a slow process, and it takes years for its development to reach a point where a very noticeable change will be made in the appearance of the school grounds. The campus at Iowa State College, which is one of the most beautiful in America, is a result of the foresight and careful planning of the founders of the institution as well as the execution of this plan by those who followed. Many of the trees which adorn the campus were planted about fifty years ago. However, the shrubs and vines which add so much to the beauty of the campus have attained their present growth in only ten years. In any school plan, if the preceding suggestions are kept in mind and followed, in a few years there should appear a decided improvement in the appearance of the site.

After all, the change in the site is not the most important thing; the greatest value lies in the development of the appreciation of well planned grounds which will come to the community whose children attend such a school.

The All-Rockford Stadium

Leo M. Lyons, Supervisor of Physical Activities, Rockford, Ill.

So much has been written about stadiums that one is sometimes forced to ask the question: "What is it all about?" It is wise, perhaps, that we stop and first answer the question, "Why the expenditure of so much money for athletic recreation?"

We are all agreed that athletic competition in university, high school, and industrial units has become a very important part of the life of any community, which has at heart the development of a program to care for the leisure time of its people. Often we think of athletics as of value to only the few who actually participate in the games. We fail to appreciate the fact that great benefit is derived by thousands of people who sit, or more often stand, in the bleachers and on the side-lines as spectators. These people reap the benefit of this investment fully as much as those who participate in the

games. The getting together out of doors, the interest and enthusiasm in the games and in the players, the keen joy in and the cheering response to a good play, the pride in our winning team, a truer appreciation of good sportsmanship, which can cheer the team that wins though it is our loss—can all be counted in as profits on the investment. So much for the question, "Why?" Now the big question is, "How?"

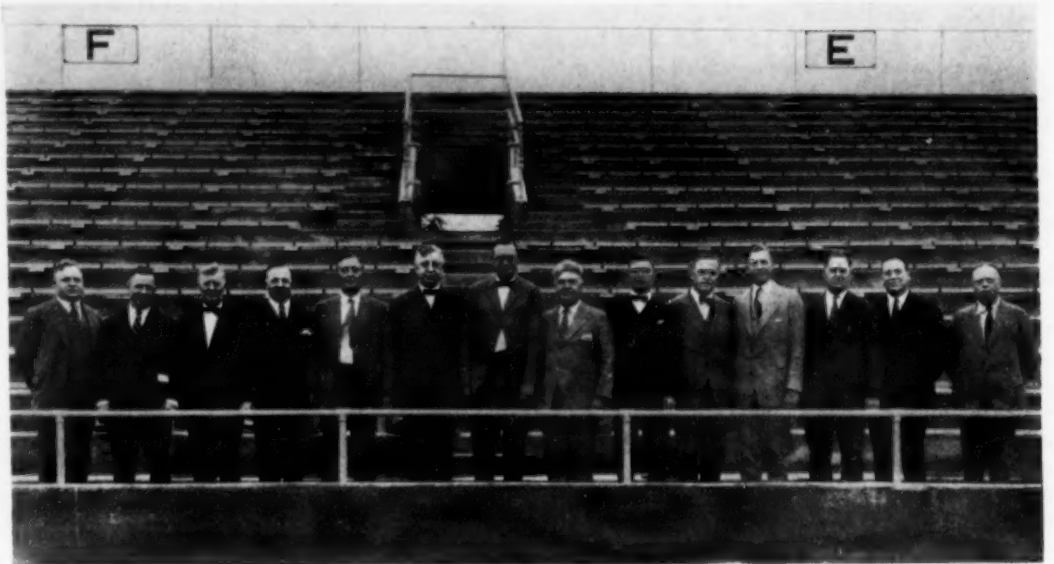
Mr. Frank A. Jensen, superintendent of schools at Rockford, Illinois, saw an opportunity, not only to build a stadium, but to lay out a piece of work that would challenge the civic consciousness of the men in the All-Rockford Kiwanis Club. Professional baseball in Rockford was in a bad slump. The Fans' Association had placed on the market their property consisting of approximately ten acres which

they had each fall leased to the high school athletic association as a football field. This property was purchased by the board of education with the understanding that their expenditures ceased with the purchase of the land.

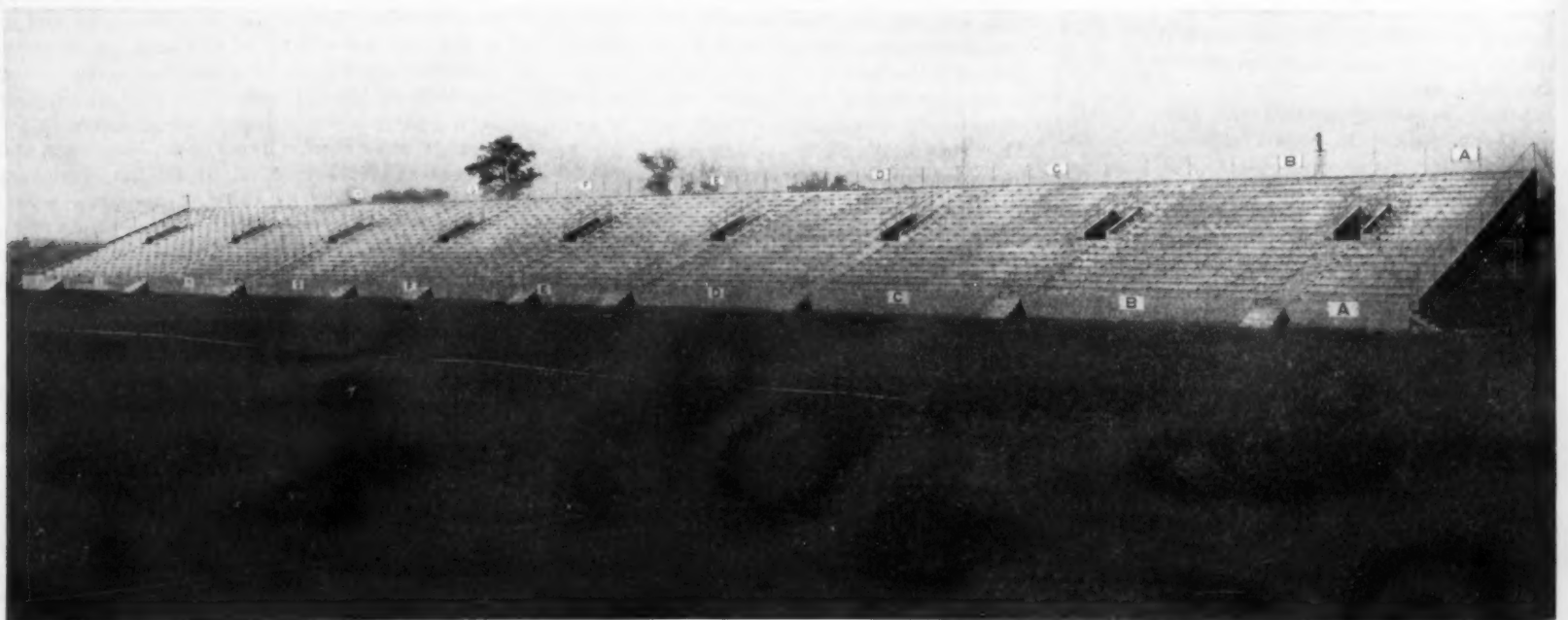
How to improve this property and make it serve the largest number of people was the next step in the development of the program. This matter was presented to the Kiwanis Club. A committee of thirty men was appointed to meet with the superintendent of schools to devise ways and means to build a stadium to seat one thousand people. This committee, with the enthusiasm of men rising to a task, ordered plans and specifications drawn for a concrete structure to seat four thousand people. This plan disclosed the fact that seats could be constructed at the approximate cost of seven dollars each. With four thousand seats as a goal, the Kiwanis Club voted to back the project one hundred per cent, each Kiwanian agreeing to build one seat. Teams were organized and the campaign was on.

High school groups were organized to canvass their school organizations. Exhibition basketball games were staged by industrial and commercial teams who wished to assist. Eleven hundred dollars were raised. Added impetus was given the drive with the announcement that each investor would be given a season ticket to the football games for the season of 1925. The drive resulted in the sale of 2,100 seats, more than double the number first suggested.

(Concluded on Page 167)



SCHOOL AUTHORITIES AND KIWANIANS WHO MANAGED THE FINANCING AND CONSTRUCTION OF THE ROCKFORD SCHOOL AND COMMUNITY STADIUM, ROCKFORD, ILL.



THE ROCKFORD SCHOOL AND COMMUNITY STADIUM, ROCKFORD, ILL.

Schoolhouses and Culture

Irving F. Morrow¹

We live in a civilization which, I suppose, cannot dispense with specialists and experts in almost every line. Yet, the expert as an institution, is not an unmixed blessing. And not the least unfortunate thing about him is that he must cultivate omniscience. It is a psychological necessity; a suspicion of ignorance, even of uncertainty, would undermine his authority with the people who must seek experts. Yet nothing is more dehumanizing. How can anybody gifted with even one of the attributes of divinity be possessed of a sense of humor? And does must cultivate humor imply a defective sense of perspective and proportion? I have recently finished reading Mr. W. E. Woodward's *Bread and Circuses*, and my heart warmed to the passage in which Michael Webb makes his eloquent plea for taking the important affairs of the world out of the hands of practical people and entrusting them to the impractical. There was, indeed, only one omission, to which Michael would doubtless have agreed but for its irrelevance to the topic of the moment—the necessity of possessing a sense of humor as well as of being impractical.

Now when an architect admits that he knows all the things which should be done in a schoolhouse, and all those which should be avoided—in other words, when he has become a school expert—he has become dangerously practical, and may have even impaired his sense of humor. He prides himself then that he is prepared for any inquiry which can be made on the subject of schools—how large should a classroom be? how wide the corridor? how large the windows? how many toilets? and so on indefinitely; on all these innumerable details he has catalogued data drawn from theory or practice. Yet there is one simple question, a question so simple and obvious that, like most others of that nature, it never occurs to anybody to ask it, which I believe would promptly fluster the average expert's omniscience.

It may be wondered why I should seem to contemplate the discomfort of the experts with evident satisfaction. I must admit that there are experts and experts. There are, on the one hand, those who have made serious studies of one or many of the various technical problems involved, and have thereby contributed toward making modern schoolhouses more intelligently fitted for their purposes than were the primitive and casual structures I recall from my own childhood. Much as I dislike the name "expert," they are entitled to it if they desire it. In any case they are deserving of the respect which their achievement warrants. On the other hand, there are the architects whose expertness is more evident in their handling of school boards than school buildings; who pass as authorities by virtue of the number of buildings to their names. Nothing succeeds like success; people seem only too ready to jump to the uncritical assumption that a man who has done a large number of schools must be particularly well qualified to do more, even though the most cursory examination of his output might make it apparent that he had never been qualified to do any. These political and commercial experts are more blatant, if not more numerous, than the scientific ones. If I can be charged with malice or resentment at all, it is only toward them. Yet even the scientific school architects are inclined to go along with their noses buried in details. It is a way with specialists in general; they fail to see the forest for the trees; and in modern school work it must be admitted

that there is a large number of distracting trees. So I look forward to their discomfort along with the rest, refusing to withdraw my proposed devastating question in deference to their admitted services.

By this time it will probably be assumed that I have up my sleeve some tricky catch question on a recondite phase of school planning or equipment. Far be it from me to play unfairly. At present I am not concerned with the proper size, shape, number, or position of anything. I merely want to put for serious consideration the question, What is a schoolhouse?

Foolish question! A schoolhouse, of course, is a building where children are taught their lessons. Bernard Shaw even goes so far as to charge that children are not primarily sent to school to learn their lessons, but to get them out of their parents' way. Perhaps I worded my question carelessly, really meaning, What should a schoolhouse be?

When you reflect that a child is in and around his school say from nine in the morning till three in the afternoon, or six hours out of a probable fourteen or fifteen awake, five days out of the week, it is an easy calculation to figure out that he spends nearly a third of his waking time at school. As a large part of the remaining time is occupied with going to and from school, errands, play, etc., it seems reasonable to suppose that he spends almost, if not quite as much time in the school building as in his own home. However much or little, then, he may learn of prescribed lessons from his appointed teachers, one thing becomes clear. Given the known importance of environment, the school building and its surroundings must be a very real influence in his life.

The importance of home surroundings is readily admitted. We try to make our homes agreeable, comfortable, civilized, artistic influences, up to the limit of our ability. To people ignorant of the necessity or the means of humanizing the home we try to furnish information as to why and how. We do not always succeed in making our homes into radiant cultural centers, it is true; but the important thing in the present connection is that we at least hold it as an ideal and often imagine we have succeeded. It is also true that our motives are not unmixed; the effect on neighbors and callers is often a stronger incentive than we would allow ourselves to admit. But solicitude for our children's welfare is none the less a reality.

Now, as we have seen, the child is spending almost, if not quite as much time in the school building as in his own home. If we recognize the home as a cultural possibility, it would seem only rational that the school should be regarded as of practically equal importance. Just what do we do to render our schools agreeable, comfortable, civilized, artistic—in a word, human? Like the impassioned political orator, I pause for a reply. And there seems only one possible—Nothing.

That is, practically speaking. We do indulge in certain aesthetic gestures, but they are so casual and disorganized as to be ineffectual. For some curious reason the kindergarten has been singled out as an object of kindly attention. There seems to be an unquestioned concurrence that it should be artistic. We, therefore, provide a generous bay window and add wood beams under the plaster ceiling; a fireplace is also *de rigueur*. Look over any school plan. It will be neat and orderly, like a first class industrial establishment. There will be one bay window, which denotes the principal's office. If there are two bay windows, it is a

primary school, and the larger bay indicates the kindergarten.

At the age of 6, or thereabout, the child leaves the kindergarten and enters the regular grade rooms. It suddenly appears that he has absorbed all the cultural influence necessary. Thenceforward everything is to be on the basis of what is known in the vernacular as brass tacks. His progress is now through a series of rooms distinguished one from the other by the numbers on the corridor doors. Here and there a conscientious teacher will put a box of sprouting beans and a potted begonia on the window sill and photographs of the Sistine Madonna and Washington Crossing the Delaware on the wall. It makes things a little more human, but fails to disguise the painful fact that these rooms where the child is condemned to pass so large a portion of his most impressionable years are one and all bare, cold, ugly, forbidding and uncomfortable. No sensitive person, child or adult, would ever think of entering or remaining in one of them save under compulsion. And then we wonder that young people grow up without a passion for the good, the true, and the beautiful.

But, it will be said, the exteriors of many modern schools are admittedly of great beauty, and I am sticking around on the inside instead of appreciating the architectural achievements on the outside. Well, so does the child. If he stayed outside looking at many of our buildings he would doubtless experience a desired cultural uplift. Unfortunately, all of his time except a small fraction when he is playing too boisterously to sense much of any influence but physical is passed inside. It is just this business of building schools for the chambers of commerce instead of for the children using them to which I object. Nothing like a fine, big, expensive (looking) school building to put the town on the map! A school has to be built, so let's make it show 'em we know how. Put it on the highway, where they can't help seeing it. Let 'em know this community appreciates education and culture and all that sort of thing, and is able to pay for it. Give 'em a good, nifty main entrance (which the children never use)—columns and arches—plenty of architecture—a good snappy cornice along the front, too, something with weight to it—you can save money by cutting it out on the sides and rear—there's nothing but the playground there anyway. Thus, do we build schoolhouses for passing motorists, without its ever occurring to us that they are nominally for our children to spend almost as much time in as they do at home.

The first time I ever built a school I decided that, of the money available for amenity, a far larger proportion should logically be devoted to the interior than is habitually done. Probably no feature of the building has had to stand more criticism than this spending of good money where it would never be seen, while the outside was left unusually plain. Particular discussion seemed to arise over the fact that every classroom was tinted a different color: this feature, of course, cost no more; but then, why be erratic? In another instance, a primary and grammar school, there was discussion over the choice of a site, of which several were available. The entire town lived on one side of Main Street, on the other side of which was only a narrow strip of land between it and a body of water. The school could have been placed several streets back from Main Street, in the midst of the residence section, secluded from the noise of highway traffic, surrounded by

¹Architect; member of firm of Morrow & Morrow, Architects, San Francisco.



MURAL IN THE ASSEMBLY ROOM, MICHIGAN CITY HIGH SCHOOL.

Painted by Robert Grafton.

agreeable trees. The site finally chosen was in a conspicuous situation on the water side of Main Street. All town and highway traffic passes it with its noise. Always twice, and in some cases four times daily, every child is compelled unnecessarily to cross this traffic—for nobody lives, or ever will live, on that side of the street. A moderate growth of the town will leave the school surrounded by businesses. And the water front, which was alleged as one of the recommendations of the property, had to be fenced off with a wire fence to keep the children from falling in. But not a motorist can pass through the town without seeing it! Think of the advertisement!

These cases are not exceptional. We habitually locate our schools in the most conspicuous places rather than the most secluded, and confine all effort to make them gracious to places that are seen by the passersby rather than by the occupants. This is no less true in the main of large cities than of small towns. It is imagined that in some obscure way a classy school building "sells the town." This is a tribute to art in so far as it concedes its real value. But it seems strange that it so seldom occurs to our boosters to help business by making business buildings more attractive. The school is the big opportunity; we have to build it from sense of duty (and force of habit). So we serve the chamber of commerce and ignore the children.

Preposterous! you will say. The whole elaborate structure of the school experts is nothing other than an effort to make schools more efficient; which is a very real way of serving the children. True. The work of experts has been of inestimable value directly and indirectly to the children. But it is all a matter of hygiene and material improvements. Just at that time of life when spiritual influences are most potent and far reaching we forget that man shall not live by bread alone. Everything has been done to make schools more adaptable to the physical requirements of their occupancy and more efficient in operation. Nothing has been done to make them more harmonious with higher ideals of life, or even more comfortable in the larger and truer sense of the word.

Returning to the beginning, then, what should a schoolhouse be? To answer this question, of course, means to go still further back and consider what kind of education we want. If education is conceived as the most expeditious training for making a living, then what we require is snap, efficiency, the most impersonal environment possible. Factory education should doubtless be dispensed in educational factories. If that is what we are after, we are getting just the schools we need.

I conceive the subject in another manner.

Education, as distinguished from training, is human, not mechanical. It aims at development of character and discrimination. It teaches not merely what to believe, but how to think. It prepares for the fullest possible development of life and of enjoyment of the best things of life. Every child has a right to education, but few get more than a composite of training and propaganda.

Obviously our schools are not conceived and equipped to carry out such a program. A school should be a place where the child unconsciously comes under the influence of surroundings which are agreeable and properly formative.

To accomplish this schoolrooms must possess charm and individuality. This does not mean that they must be expensive and elaborate; it means only that a little consideration must be given to their design, and a little of the money

lavished on the ornament of the main entrance spread over the inside; intelligent and sympathetic thought would be even more effective than the money. And, since we have mentioned the outside, the facades on the playground must be as attractive as those on the street, and a few of the plants and trees that clutter the front yards must be judiciously placed in the barren playgrounds. In other words, if we propose to give human education, it can only be done in a human environment. Light, air, and correct heights of desks (bether the desks, anyway!) are all as important as you please; but after all, less important than a generous, sympathetic, and creative outlook on life.

I submit these considerations to the attention of the experts who design schools—and the boards who build schools—and the parents who pay the money.

Interesting Murals in the Michigan City High School

L. W. Keeler, Superintendent of Schools

During the course of erection of a senior high school building in Michigan City, Indiana, the local Rotary Club became interested in the question of starting a program of suitable decoration for the interior of the building. To carry out the intent of the club a committee of Rotarians was appointed, and after considering all possibilities it was decided to approach Robert Grafton, the well known artist, with the purpose of interesting him in the project.

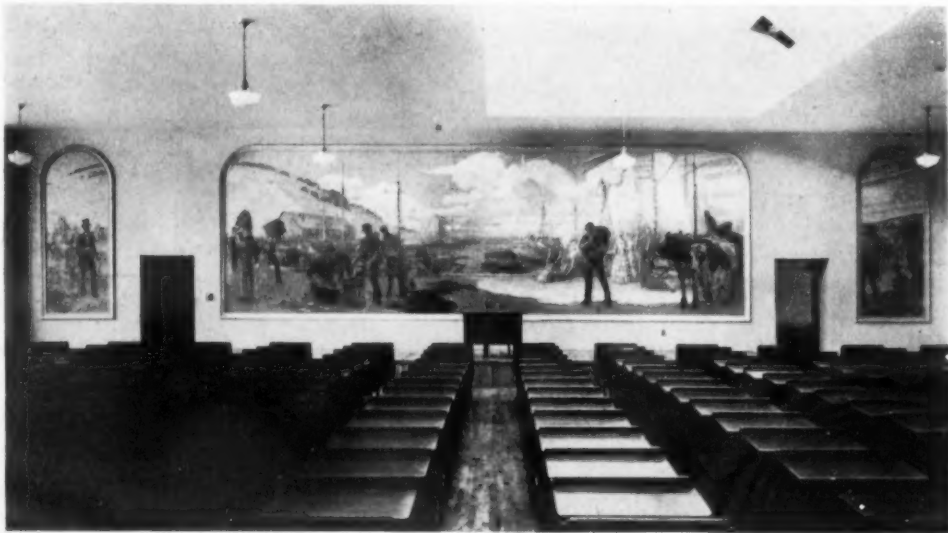
Michigan City is fortunate in being Mr. Grafton's home and in the further fact that this gifted artist is interested heart and soul in building up in the coming generation of his fellow townsmen, an appreciation of and love for art. Seeing the opportunity offered, to

accomplish this end through a suitable mural study placed before the students of the high school, Mr. Grafton generously offered to execute such a painting without charge for his services.

In cooperation with the school authorities and the Rotary committee, Mr. Grafton selected the front wall of the study hall as the space best suited to the work. This wall expanse, being broken by two doors, lent itself well to an arrangement of one center panel 10'x34', with two side panels 10'x4'6" separated from the main panel by the doors opening through the wall.

After considering various subjects, it was decided to undertake the presentation of a scene

(Concluded on Page 167)



THE THREE PANELS AS THEY APPEAR FROM THE REAR OF THE ASSEMBLY HALL.



FRONT VIEW OF EAST HIGH SCHOOL, DENVER, COLO.

George H. Williamson, Architect, Denver, Colo.

TYPES OF DENVER SCHOOL BUILDINGS

Homer W. Anderson, Assistant Superintendent of Schools, Denver

During the past three years Denver has been engaged in a school building program consisting of five additions and twelve new elementary school buildings, three senior high schools, and two junior high schools. The following amounts were voted to carry on this program:

Elementary schools	\$2,000,000
Junior high schools	1,750,000
Senior high schools	4,140,000
Equipment for high schools ..	400,000

Total.....\$8,290,000

The above mentioned figures do not include the cost of sites. This article presents a brief description of three Denver schools recently completed.

East High School

East High School, which will accommodate 2,100 pupils, is the largest building in the program. It contains 4,229,000 cubic feet and was built at a total cost of approximately \$1,560,000, or nearly \$0.37 per cubic foot. It is located on a twelve-acre site on which will be provided facilities for athletics and the regular physical and health education program.

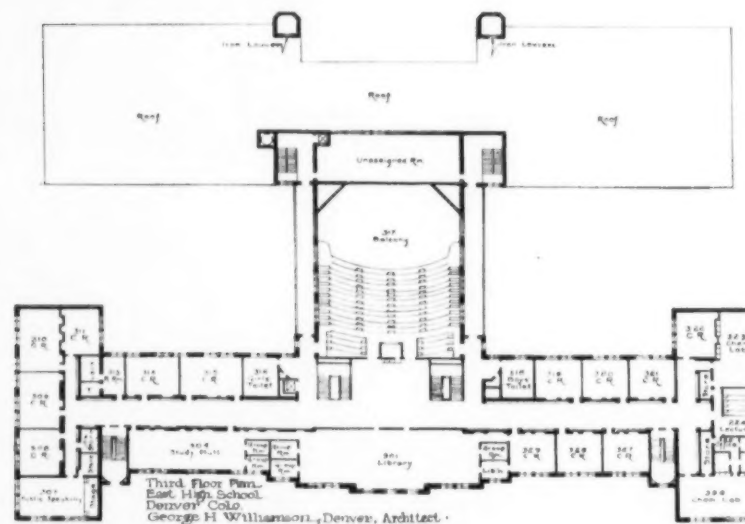
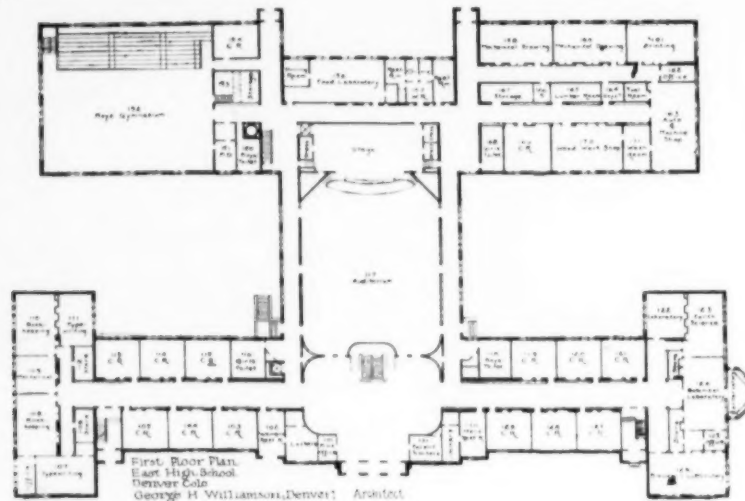
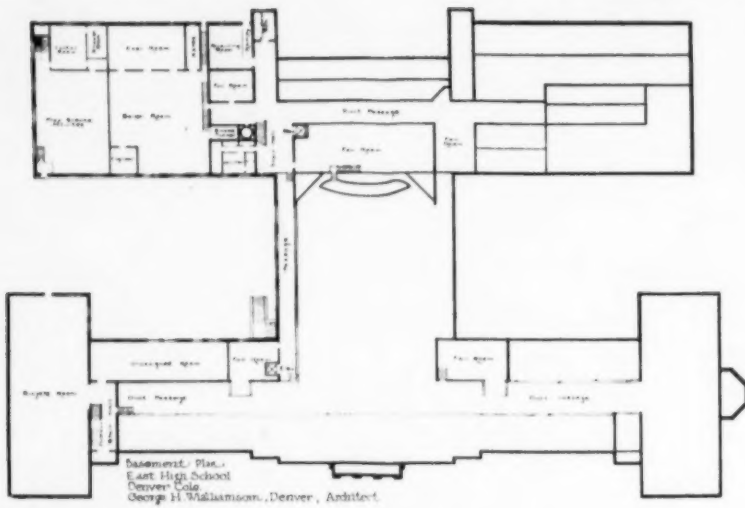
Architect George H. Williamson designed the building in English Jacobean style of the early Seventeenth Century. The outstanding architectural feature is the central tower, which is 162 feet from grade to top of finial. The building as a whole is a combination of architectural terra cotta and brick. The brick varies from light red to blue-black, and is laid with cement mortar in wide flush joints. Light gray terra cotta with a dull mat glaze finish is used for trim. Color is introduced in the parapet panels for atmospheric effect.

East High School is at grade level, four stories in height, although the fourth floor contains only the music department and the cafeteria. The construction is fireproof with maple floors in all classrooms, terrazzo floors in the corridors, and wood trim and interior doors of gray fumed oak.

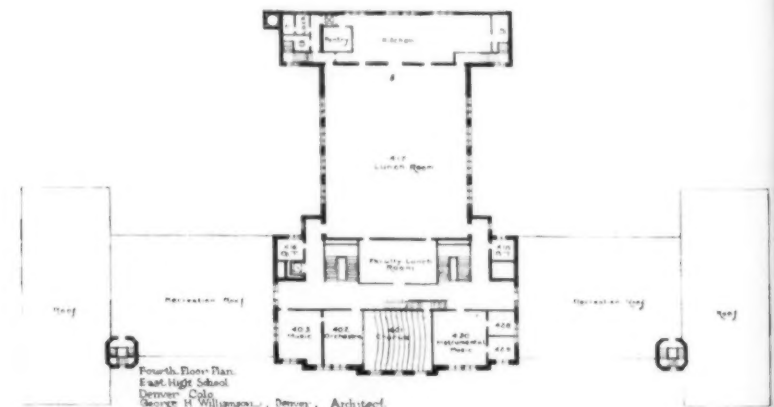
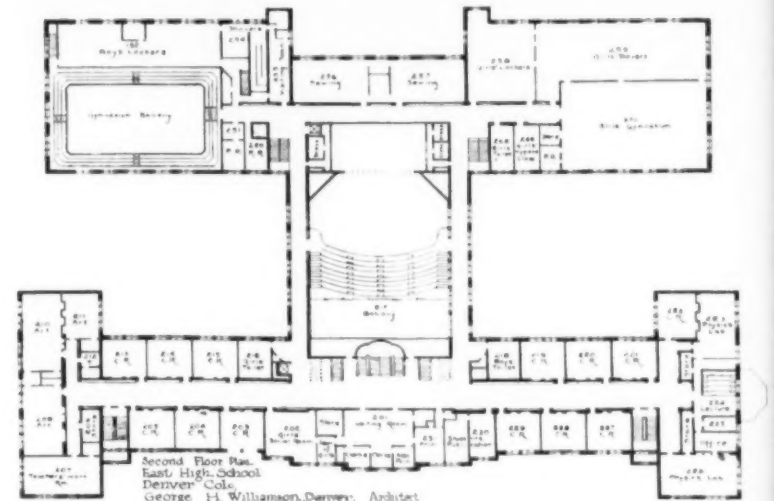
The floor plan of the building is known as the H type, allowing nearly perfect orientation for light in all instructional rooms. It is 417 feet in length and 279 feet in width. The front



VIEW OF EAST HIGH SCHOOL, DENVER, COLO., THROUGH THE ARCHED ENTRANCE TO THE ESPLANADE IN FRONT OF THE BUILDING.



DETAIL OF FRONT ENTRANCE, EAST HIGH SCHOOL, DENVER, COLO.
George H. Williamson, Architect, Denver, Colo.



or main part of the building contains the regular classrooms, science laboratories, art rooms, commercial department, library, study hall, offices, rest rooms, and toilets. The rear portion of the building contains the home economics laboratories, boys' shops, and physical education departments. The connecting link between the front and the rear portions contains the auditorium, flanked on each side with corridors.

The standard classroom is 23 feet by 36 feet, and will accommodate 36 pupils. It is equipped with blackboards, bulletin boards, bookcases, teachers' wardrobe closet, automatic telephone, and lantern outlets. All laboratories, shops, and other special rooms have been designed and equipped for 32 or more pupils.

There are three places of unusual beauty in the building. The main entrance lobby is a large oval space in front of the auditorium. It is trimmed in gray Ozark marble, with the walls and ceilings in three-toned gray effect. A double terrazzo stair with bronze railings leads from the lobby to the second floor. The audi-

torium and the library also have attractive features. Both have been treated simply. The library is finished in fumed gray oak, with an illuminated Elizabethan ceiling, and marbled rubber tile floor. The walls are lined with open bookcases.

The following is a list of the rooms provided in the building:

	Number of Rooms
Classrooms	40
Lecture rooms	2
Boys' shops	3
Lumber room	1
Tool room	1
Wash room	1
Mechanical drawing	2
Food laboratory	1
With dining room and unit kitchen.	
Clothing laboratories	2
With fitting rooms and lockers.	
Science rooms	8
Conservatory	1
Bookkeeping	2
Typewriting	2
Mechanical devices	1
Art	3
Music	4
Public speaking	1
Study hall	1
Students' publications	1

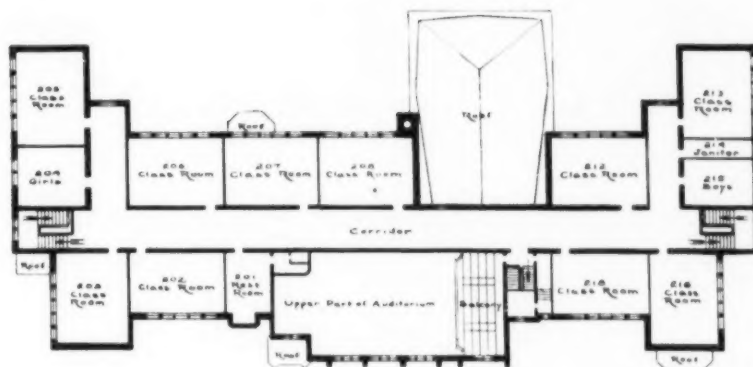
Library	1
Librarian's room	1
Group rooms	1
Gymnasiums	1
Instructors' offices	1
Locker and shower rooms	1
Girls' hygiene room	1
Visiting team room	1
Auditorium	1
Capacity, 1800.	
Toilets—	
Boys'	6
Girls'	6
Teachers'	2
Clinic	1
Examination rooms	1
Waiting room	1
Rest rooms	1
Offices	12
Shops	1
Box office	1
Science	1
Dean of girls	1
Clerks	1
Assistant principal	1
Principal	1
Waiting room	1
Commercial	1
Rest rooms—	
Teachers'	2
Girls' social room	1
Teachers' workroom	1
Cafeteria—	
Students'	1
Faculty	1
Kitchen	1
With pantry and lockers.	



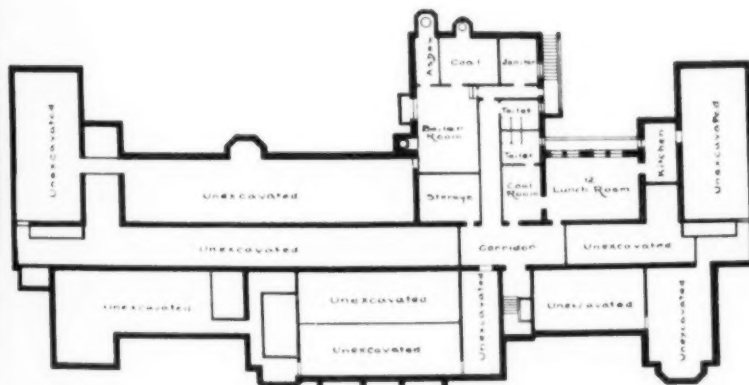
FRONT VIEW.



FIRST FLOOR PLAN.



SECOND FLOOR PLAN.



BASEMENT PLAN.



VIEW OF PLAYGROUND AND REAR OF SCHOOL.

FAIRMONT SCHOOL, DENVER, COLO.

HARRY JAMES MANNING, ARCHITECT, DENVER, COLO.

Parent-Teacher Association room.....	1
Storerooms.....	18
General.....	8
Gymnasium.....	2
Shop.....	1
Science.....	6
Food laboratory.....	1

Cole Junior High School

The William N. Bowman Company, architects for the Carlos M. Cole Junior High School, have designed the building in a Georgian style of architecture, with massive columns at the main entrance and a bronze cupola crowning the central portion of the building. The exterior of the building is red

flash brick and Indiana limestone. The building is fireproof, grade level, and three stories in height. The total over-all length is 344 feet, width 266 feet, and cubical contents 3,013,500 cubic feet. The completed structure will cost about \$920,000, or nearly \$0.31 per cubic foot. The building has a normal capacity of 1,800 pupils.

This school is located on two city blocks in a thickly populated section. The site is about 612 feet by 400 feet. The playground, while not large, will provide for baseball, soccer, and all the physical education needs of the school.

Like the East High School it is an H type of building with the front portion devoted to classrooms, commercial rooms, science rooms, study rooms, offices, rest rooms, and toilets; and the rear portion consisting of the home economics laboratories, boys' shops, music, art, and physical education units. The auditorium flanked on each side by corridors, makes the connecting link between the front and rear portions of the building. The lunch room is located on the third floor in the space above the auditorium.

The kind and number of facilities provided in the building are as follows:



FRONT VIEW OF CARLOS M. COLE JUNIOR HIGH SCHOOL, DENVER, COLO.

William N. Bowman Company, Architects, Denver, Colo.

	Number of Rooms				
Classrooms	27	Teachers'	2	Storerooms	15
Lecture room	1	Students'	1	General	6
Boys' shops	7	Girls' social room	1	Shops	2
Finishing room	1	Teachers' workroom	1	Art	1
Lumber room	1	Cafeteria—	1	Food laboratories	3
Mechanical drawing	2	Students'	1	Gymnasiums	2
Food laboratories	3	Faculty	1	Kitchen	1
With dining rooms and unit kitchens.		Kitchen	1		
Clothing laboratories	3				
With fitting rooms and locker rooms.					
Science	3				
Bookkeeping	2				
Typewriting	2				
Art	4				
Music	2				
Study halls	2				
Library	1				
Librarian's room	1				
Workroom	1				
Gymnasiums	2				
Instructors' offices	2				
Locker and shower rooms	2				
Auditorium	1				
Capacity, 1200.					
Toilets—					
Boys'	4				
Girls'	5				
Teachers'	2				
Clinic—					
Waiting room	1				
Examination rooms	2				
Rest rooms	2				
Offices	8				
Waiting room	1				
Clerks'	1				
Principal	1				
Assistant principal	1				
Dean of girls	1				
Art	1				
Home economics	1				
Ticket office	1				
Rest rooms	3				

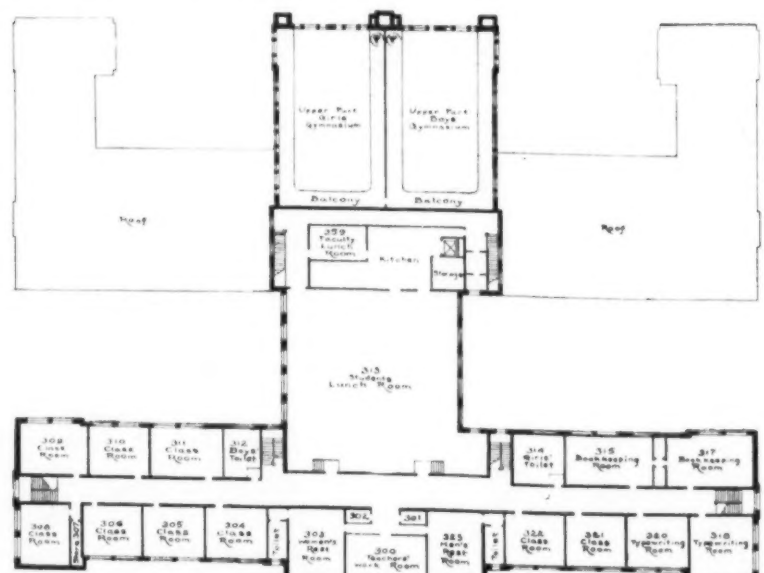
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FIRST FLOOR PLAN.



SECOND FLOOR PLAN.

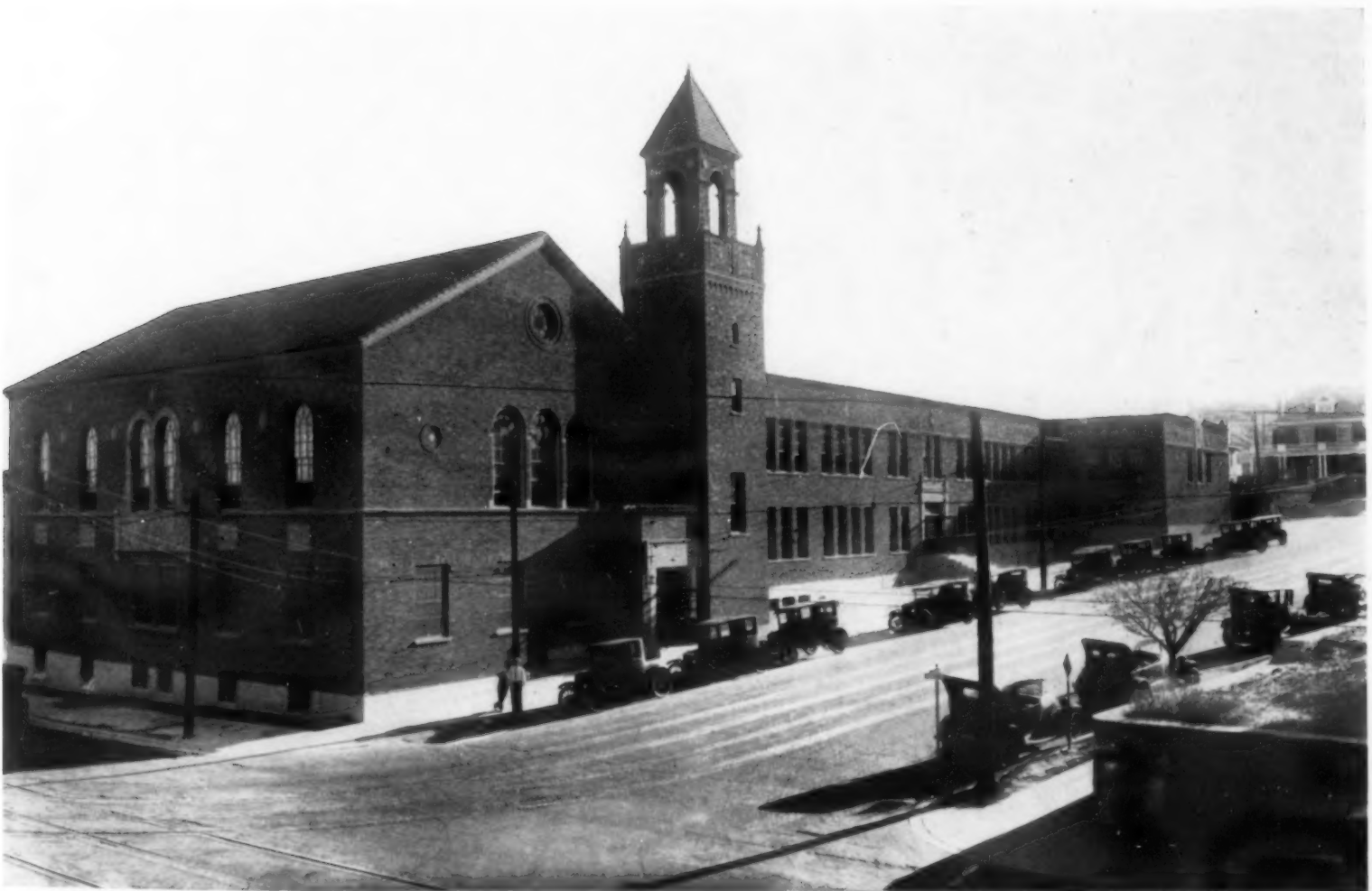


THIRD FLOOR PLAN.

FLOOR PLANS OF THE CARLOS M. COLE JUNIOR HIGH SCHOOL, DENVER, COLO.
Wm. N. Bowman Co., Architects, Denver, Colo.



SIDE VIEW.



GENERAL VIEW.

VOCATIONAL SCHOOL, EL PASO, TEXAS

TROST & TROST, ARCHITECTS, EL PASO, TEXAS.

(See Next Page.)

The El Paso Vocational School Building

The new trade school building just completed at El Paso, Texas, centralizes in one unit all of the vocational work offered by the El Paso school system. The building is of secondary grade, but admittance to the vocational courses is possible for all pupils over fourteen years of age, who show a serious intention to enter a trade, and who, in the judgment of the school authorities, show promise or prospect of success in the chosen occupation.

The building is two stories in height and without basement, except for a limited space devoted to the boilers and the ventilating apparatus. On the first floor there are a large machine shop, an automobile shop, a woodworking shop, and in a separate unit the administrative offices of the board of education.

On the second floor there are academic rooms for both boys and girls, a cafeteria, drafting rooms, a food laboratory, and sewing rooms. In the space above the administrative offices of the school board there is a large auditorium which serves both for school purposes and general community purposes.

The building construction is of concrete, tile and brick, with terra cotta and gray stone trim. The building cost \$170,000.

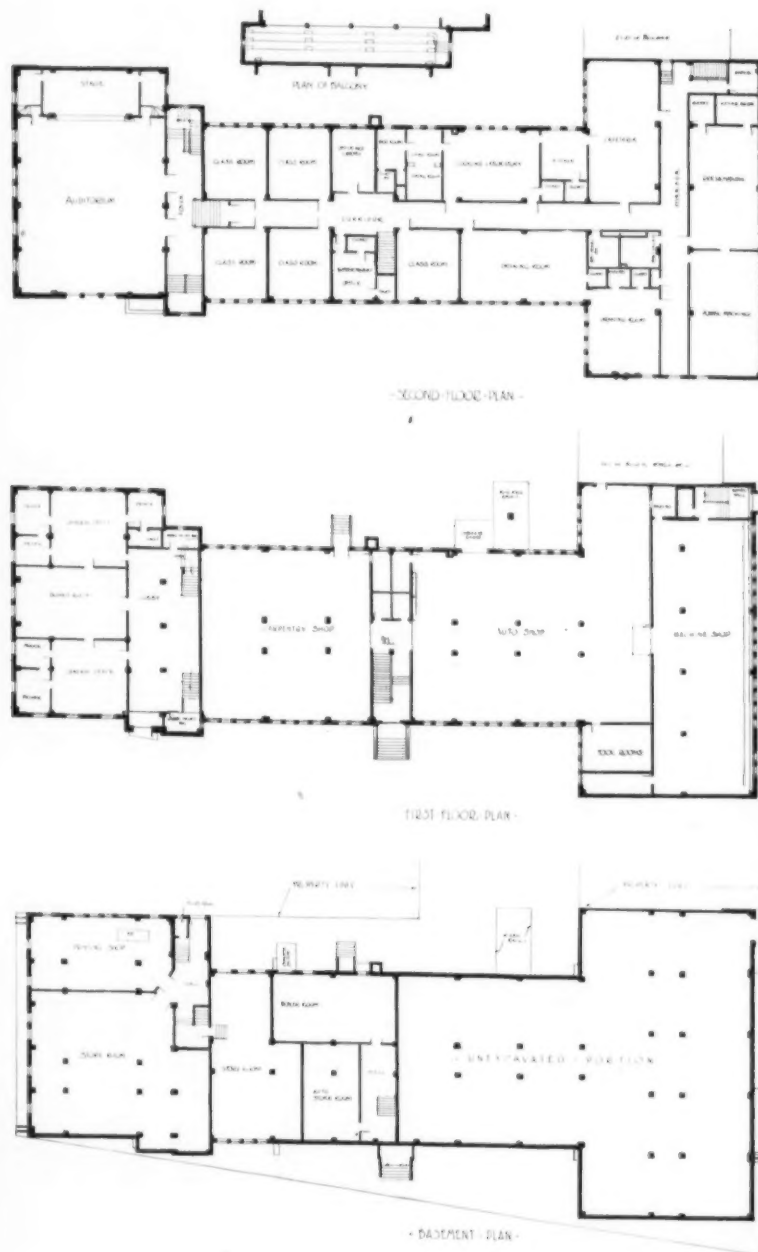
The architects are Messrs. Trost & Trost, El Paso, Texas.



AUTOMOBILE SHOP.



ABOVE: MACHINE SHOP; BELOW: DRESSMAKING DEPARTMENT.



FLOOR PLANS.

INTERIOR VIEWS AND FLOOR PLANS, VOCATIONAL SCHOOL, EL PASO, TEXAS.
Trost & Trost, Architects, El Paso.



FRONT VIEW.)



TOP: (LEFT) CAFETERIA; (RIGHT) LIBRARY. BOTTOM: (LEFT) TYPICAL CLASSROOM; (RIGHT) DOMESTIC SCIENCE ROOM.
 SOUTHWEST JUNIOR HIGH SCHOOL, SOUTH BEND, IND.
 Austin and Shambleau, Architects, South Bend, Ind.
 (See Page 63.)



FRONT VIEW.

THE BEATRICE JUNIOR HIGH SCHOOL
Supt. W. H. Morton, Beatrice, Nebr.

Beatrice, Nebraska, is a city of ten thousand population and has a school system which enrolled 2539 students for 1924-1925.

In February, 1923, a conference between the superintendent of schools and members of the parent-teacher associations was held to discuss ways and means of improving the physical plant of the Beatrice school system. As a result of this conference, it was decided to ask for a bond issue of \$400,000 to remodel three ward buildings, to build a two-room ward building and a manual arts building, and to use the rest of the fund for the erection of a junior high school building, which should serve the entire district. The superintendent's office with the aid of the seven parent-teacher associations of the city caused the bond issue to be carried at the polls in June, 1923.

As a result of the special bond issue the following buildings have been planned and finished, and are now in use: Two eight-room grade buildings, one four-room building, one two-room grade building, an industrial-arts building, and the junior high school building.

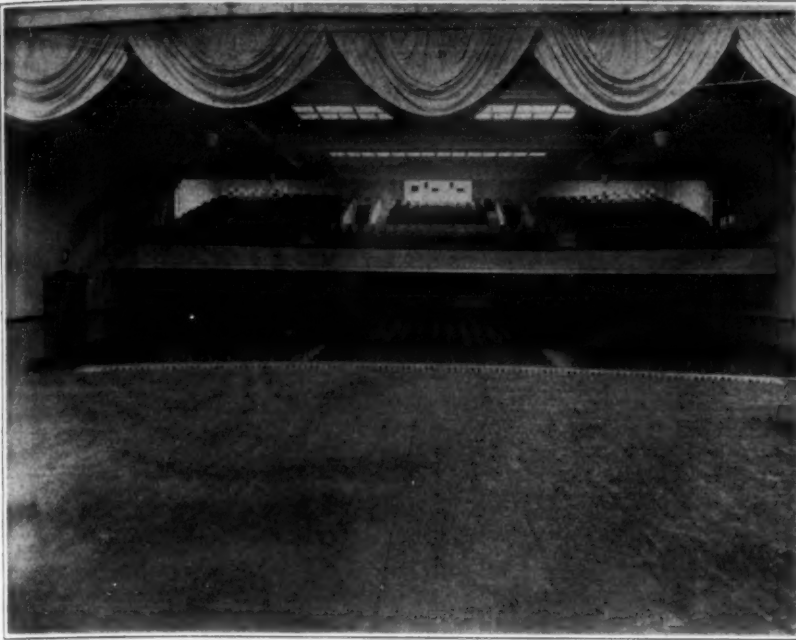
The ward schools are remodeled buildings. However, it must be said that only a small part of the walls of the old buildings were retained. The roof, plastering, window frames, windows, doors, and all of the heating and plumbing materials were removed from the buildings and replaced. The old corridors and stairs were torn out and replaced with fireproof construction. The new buildings are double the size of the old buildings, and the exteriors are finished in stucco.

As stated above, the junior high school building serves the entire city. An old Central grade building stood on a block of land in the central part of the city, adjacent to the city's Memorial Park, on which is located the city's library. This old ward school was wrecked and on the same site the new junior high school was built. This gives a beautiful site, measuring

(Continued on Page 153)



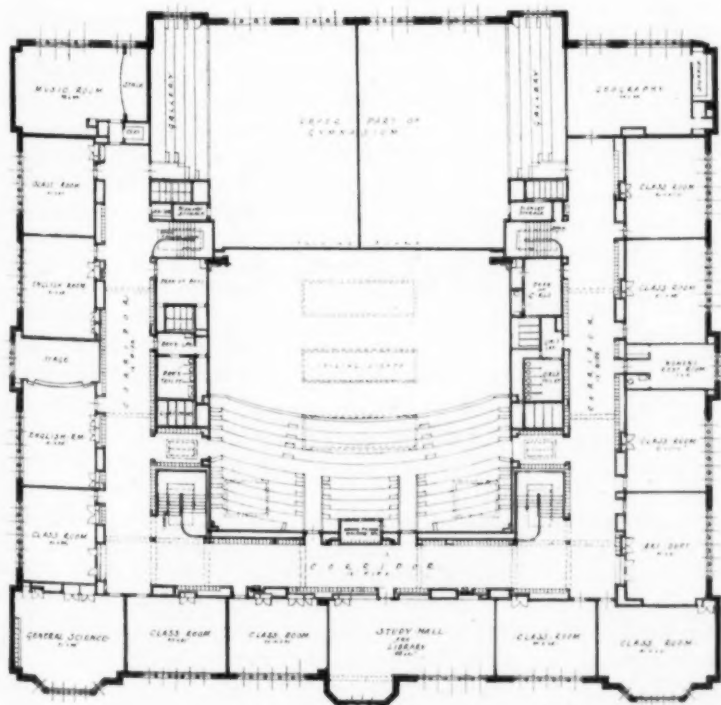
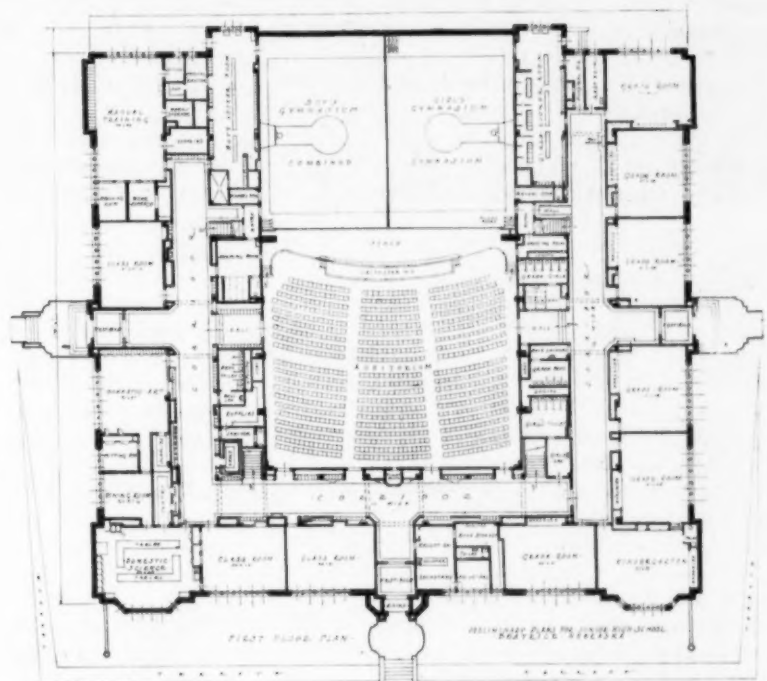
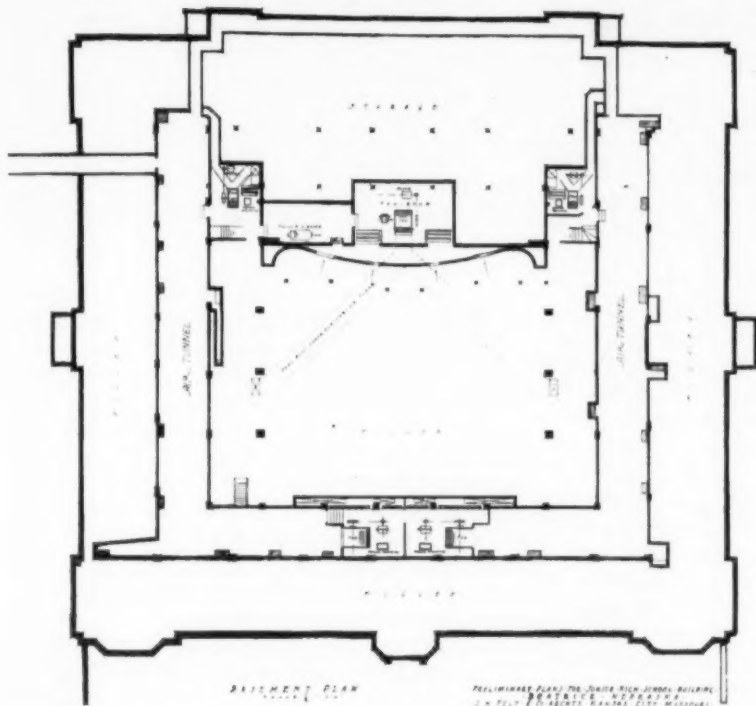
ENTRANCE DETAIL.
JUNIOR HIGH SCHOOL, BEATRICE, NEBR.
J. H. FELT & CO., ARCHITECTS, KANSAS CITY, MO.



AUDITORIUM.



CAFETERIA.



TYPICAL CORRIDOR.

JUNIOR HIGH SCHOOL, BEATRICE, NEBR.
J. H. FELT & CO., ARCHITECTS, KANSAS CITY, MO.

Some Modern Phases of School Architecture¹

Herbert Foltz, F. A. I. A., Architect, Indianapolis, Ind.

Architecture has been called the printing press of the ages, and it early shows in its various phases the state of society and the progress of civilization. As a people have thought, so have they acted and, conversely, one may read in their acts what they have thought—their real thoughts, be it understood, not what they avow they think. Throughout history we read that which cannot escape this analysis. Man has expressed, through the generations, the changing drift of his thoughts indelibly in the buildings which he has erected. Slowly by centuries, generations, years, even days, the thought of the people has changed; so with precision have their acts responsively changed, and we perceive in buildings the thoughts and aspirations of the people who built them—the buildings are always the expression of the thinking.

Architecture is but one of the activities of a people and, as such, necessarily in harmony with all the others, for as a people think concerning architecture, so they think concerning everything else; and inversely, as they think concerning everything else, so they think concerning architecture. If people would but realize that the things they live with determine in a measure what manner of men and women they are or will become, more thought would be given to their environment.

Early American School Architecture

It was to be expected that for a long time after the Revolutionary war little thought could or would be given to education or facilities for the teaching of other than the most elementary subjects. The struggle for the necessities of life and the hardships incident to the settlement of a new country afforded but few opportunities during the formative period of our national government for the consideration of intellectual and cultural matters. Simplicity in living and thinking prevailed, and it was easier to conform to existing standards than to set up new standards and hold to them. Viewed from this day and age, however, it is difficult to reconcile the thought and appreciation of the refinements which characterized the homes, meeting houses and town halls of our forefathers, with the apparent lack of interest in adequate school facilities. Commenting on the condition of public school buildings as late as 1833, Horace Mann, secretary of the Massachusetts Board of Education, said that not one-third of the public schoolhouses in Massachusetts would have been considered tenantable by any decent family, out of the poorhouse or in it.

The first public contribution concerning the design of school buildings was an "Essay on the Construction of Schoolhouses," published in 1831 by the American Institute of Instruction, for which the author, Dr. William A. Alcott, of West Newton, Mass., received a prize of twenty dollars. This was followed in 1833 by a pamphlet by the Rev. G. B. Berry in which the too generally defective construction and arrangement of schoolhouses was severely condemned and the resultant evils exposed. This pamphlet seems to have attracted widespread attention, resulting in much needed improvements in schoolhouse planning and construction.

In 1838 Horace Mann submitted a report in which the subject of ventilation of school buildings was for the first time given serious attention. The struggles of educators during these early years were also referred to, it apparently having then been difficult to secure competent teachers for the elementary schools. He adds, however, that "they are as good as public

opinion demands." The salaries then paid were, on an average, exclusive of board, \$15.44 per month for males and \$5.88 for females.

Some Important Writings

In the following order, according to a preface to Wheelwright's *Municipal Architecture* in Boston, 1898, by Francis W. Chandler, Professor of Architecture of the Massachusetts Institute of Technology, books were published covering various early phases of schoolhouse design and equipment:

- 1842. *The Schoolhouse*, by Professor George B. Emerson.
- 1854. *School Architecture, or Contributions to the Improvement of Schoolhouses in the United States*, by Henry Barnard, Superintendent of Schools in Connecticut.
- 1855. *Pennsylvania School Architecture, a Manual of Direction and Plans for Grading, Locating, Constructing, Heating, Ventilating, and Furnishing Common Schoolhouses*, by Thomas H. Burrowes.
- 1874. *School Architecture*, by E. R. Robson, Fellow of the Royal Institute of British Architects and architect for the London School Board.
- 1880. *Rural School Architecture*, written by T. M. Clark, Architect, of Boston, and published in Washington by the Bureau of Education.
- 1886. *The Hygiene of the Eye in Schools*, by Dr. Hermann Cohn, of the University of Breslau. Dr. Cohn gave great impetus to the study of school hygiene and his researches in this field led the way to reform in schoolhouse design by basing it on scientific principles.
- 1897. *School Hygiene*, by Dr. S. D. Risley, of Philadelphia, who first stressed the importance of adequate lighting and proper ventilation to reduce the rapidly increasing percentage of myopia, as all affections of sight are aggravated by bad lighting and unwholesome conditions.

School architecture received its first real impetus in America in the City of Boston, during the four years beginning May 1, 1891, under the administration of Mr. Edmund M. Wheelwright as city architect. Mr. Wheelwright was an architect of proven professional skill and attainments, and to him more than to any other individual or agency, belongs the credit for arousing public interest in the schoolhouse as a civic asset in embracing hygienic principles and possessing architectural merit in its design. The publication of his articles on the "American Schoolhouse" in the *Brickbuilder* in 1897, and of his two illustrated books on "Municipal Architecture in Boston" in 1898, immediately set a new standard for the design and construction of school buildings in this country, and a new era in this field of architecture was inaugurated. The quarter of a century from 1900 to the present time witnessed a gradually increasing number of writings on the various phases of schoolhouse design and construction in book and magazine form, copiously illustrated, until today a large section of an architect's library is occupied by data and information prepared by experts on this subject.

Early Ideas of Classrooms

It is of much interest to compare the conclusions and recommendations of the earlier writers on school building standards and to contrast their ideas in the matter of size of classrooms, ventilation, and lighting with those which prevail today. A constant struggle was participated in for more than a half century between the comparatively few who believed that the health, morals, and intellectual progress of the children and the success of a teacher were measurably influenced by proper sanitary conditions, and an apathetic public whose first question was whether the cost was justified. Our present-day standards are accepted with little thought or knowledge of the difficulties encountered by those who so steadfastly fought the fight for us against great odds.

It is only within the past few years that the forty-pupil room has become standardized for elementary schools. The plan recommended by Dr. Alcott in his prize essay in 1831, contemplated a room for 56 seats, lighted on opposite sides. It contained seven rows with eight seats in each row. Curiously enough the 56-pupil

room remained as standard for about 75 years, though its dimensions and cubic contents gradually responded to the demands of new scientific formulae. In 1842 the recommended dimensions of a 56-pupil room was 30' long by 25' wide by 10' high, allowing 131½ square feet of floor area and 134 cubic feet of air space per pupil. By 1900 this room had increased in size to 32'x28'x13'6". With the increase in volume per pupil to the present standard of 200 to 225 cubic feet to insure adequate breathing spaces, the 56-pupil rooms were found to be too large to construct economically and to light properly and by degrees their size was gradually reduced to 50.45, and finally 40 pupil capacity, thus automatically accomplishing by the aid of science what the leading educators had been advocating for years—a smaller class unit for greater teaching efficiency.

The Evolution of Ventilation

Of equal interest is the evolution in the theories of ventilation as applied to schoolrooms. In describing in terms of highest praise the Philadelphia High School in 1855, Thomas H. Burrowes said that the flues were all made large, both for the admission and exit of the air. In the classrooms, which were 38'x22', the warm air flues averaged 1½ square feet and the ventilating ducts 2½ square feet. In a similar room today with a gravity system of heating and ventilating, six square feet would be required for each duct, as modern science and most authorities having jurisdiction over the construction of school buildings demand that at least 30 cubic feet of fresh air be supplied to each pupil per minute and that an equal amount of vitiated air be withdrawn at the same time. Thus, what was formerly considered sufficient for thorough ventilation of a schoolroom would today be deemed practically worthless.

The various organized agencies which have engaged during recent years in the study of school problems have rendered valuable service in bringing about the standardization of basic requirements in school building construction. These standards, the result of years of teaching experience and scientific research, have by voluntary adoption come into general use. Many have been incorporated into state and city laws and building codes and are, therefore, mandatory. These concern principally methods of heating and ventilating, natural and artificial lighting, sanitation, fire and panic hazards, overcrowding, floor loads, and safety devices. Much credit is due the National Education Association for its schedule of standard areas and other recommendations and building data now so generally accepted and used. In fact, the principal mediums left for the display of the designer's skill and ingenuity in the solution of his problem are to be found in the best application of these standards, the discovery and use of structural economies, and the development of a logical and fitting architectural exterior.

The Selection of Architects

While educators and scientists have been perfecting the plan and sanitary facilities of the school building as a whole and the classroom as a unit from the standpoint of teaching efficiency, it is only within recent years that attention has been directed to the school building as an opportunity for a fitting architectural expression and permanency in construction. For a long time these buildings were largely standardized and copied, cheaply constructed, and with but little architectural merit, due primarily to the parsimony of school officials, an indifferent public, and a lack of interest on the part of leaders in

¹Read before the School Administration Department of the National Education Association, Indianapolis, June 29, 1925.

the architectural profession because of the methods used for selecting architects.

I believe the factor which more than any other is responsible for the recent advances in school architecture is the present attitude of the architectural profession and press towards this subject. So long as the practice prevailed of selecting an architect on the basis of competitive sketches, political pull, or reduction of fee, few leaders in the profession were to be found in the ranks of recognized school architects. Today, however, as the result of a more general feeling that our schools should be not only well lighted and ventilated but also durable and architecturally good, architects of high standing are being employed on the basis of their achievements in this and other fields, and the lowly school building of the past is rapidly assuming architectural proportions in keeping with its importance as a center for community activities. The school architect of today recognizes that each new building is an individual problem and an opportunity for the exercise of his best skill in design, as he must satisfy not only a more discriminating and exacting group of school officials than formerly, but also he must please a more critical public, slowly but surely becoming better qualified to differentiate between good, bad, and worse in architectural expression. The design and equipment of the modern school plant today receives as thoughtful consideration as is given to the modern hospital, and every detail is regarded as worthy of the most careful study and development.

Some Newer Improvements

It would be futile to attempt here to enumerate the many devices and refinements which are now considered essential to the proper and efficient operation of the modern school building. First, let it be said that these do not mean frills and non-essentials, as some are still prone to believe. While the initial cost may in some cases be greater, many of these devices and refinements are in the interest of proven economy in administration, operation, and maintenance. Chief among the improvements which are now generally accepted as tending to simplify construction, to provide more permanent buildings, to insure safe and sanitary conditions, or to best contribute to the proper and economical administration of the school may be mentioned the following:

The elimination of the basement by placing the lower story floor level with or slightly below grade, thus reclaiming this story for school purposes.

The adoption of modern fireproof construction which, if properly designed and used under normal conditions, should not now cost more than wood joist construction.

The substitution of steel sash for wood, special attention having been recently given by the manufacturers of steel sash to the development and perfection of this product for installation in school buildings.

The elimination of wood trim from all door and window openings.

Wider and better lighted corridors.

Additional stairways and exits.

Sanitary floors, base, and wainscoting for corridors and toilet rooms.

Provision in corridors and each classroom for the display of pictures and art objects.

Cork bulletin board and tack strips in each classroom.

Emergency toilets in each of the upper stories.

Clinic and emergency rooms for pupils.

Rest room for teachers equipped with hot plate, sink, china cupboard, and lockers.

An auditorium primarily designed and equipped for community use, with stage, dressing rooms, and provisions for moving pictures,

so arranged as to be accessible directly from the outside independently of the main building connection.

Increased Costs

The increased cost of school buildings, at a time when the building program has been allowed to become ten or more years behind normal demands and each annual school enumeration shows an ever increasing enrollment, has caused school officials, taxing units and the public much concern. Naturally school building costs have increased only in the same ratio as have other building costs, but the fact is generally lost sight of that the cost of a modern school building is perhaps 25 per cent greater than the cost of the average commercial or institutional building of similar size, due to the requirements of building codes and state laws covering school building construction and equipment. Most of this additional cost is absorbed in increased space required for circulation and safety, the installation of adequate heating and ventilating systems, the enlarged duct areas, and the additional power equipment to maintain proper ventilation. Few stop to consider that in the design and construction of no other type of building are the regulations and safeguards prescribed by law so mandatory and unelastic as are those for the school building. And it is well that this is so, otherwise there would be no progress and we would still be building the insanitary and makeshift buildings that characterized those of the nineteenth century.

Aside from the additional cost due to sanitary and hygienic features required by law, the cost per cubic foot of a school building should not exceed a corresponding unit cost of another building in which similar materials and methods are employed in its construction. The use of expensive materials for either the exterior design or the interior finish and equipment is neither justifiable nor desirable. Over-ornamentation is to be deplored. Good proportions, color harmony, emphasis only where emphasis belongs, proper relation between mass and parts—all these can be translated by the use of the more common and inexpensive materials into terms of simplicity, dignity, and beauty of de-

sign much more safely and surely than through the medium of costly materials and elaborate details. The aim and obligation in spending public money for school buildings should be first to make them safe and reasonably permanent; then to design and build them with due regard to the demands of hygienic laws on the most liberal scale, using nothing in their construction or finish that is not needed to accomplish these ends; then to make them architecturally good; and finally to decorate the interiors simply and quietly in appropriate colors. The steadily increasing desire to surround the child with beautiful things during the receptive period of school life can be satisfied more effectively by the use of color, decoration, pictures, etc., in such variety as will best appeal to a child's imagination.

In Conclusion

Measured by the yard stick of their architecture as an index to the thought and aspirations of a people of any particular period of history, what, then, about our American school buildings of today? Weight for weight, measure for measure, sign for sign—as are these buildings, so are we. And in answer to the query, I will say without fear of contradiction that America today is building better planned, more sanitary, safer, and more artistic school buildings than have been erected at any other place or time since schools were built. There is more than promise in our schools of today—there is achievement. The architect and the educator have at last joined hands and, aided by the splendid cooperation given by architectural journals and writers, have succeeded in prying loose much of the conservatism which has dominated our school officials and policies, and in selling to the taxpayer the idea that good schools are a community asset. To me the unprecedented development of our school architecture and the public response to the efforts being made to provide educational facilities more representative of our time and civilization symbolize better than any of the many other present-day advances a national awakening to the importance of cultural contacts and influences in our everyday affairs.

A Florida School Building Program

Ray L. Hamon, Director of Building Construction, Miami, Fla.

It is doubtful if any school board has ever been confronted with a more difficult problem than the present incumbents of the Board of Education of Dade County, Florida. This situation is due to the very rapid growth of Miami and her surrounding territory.

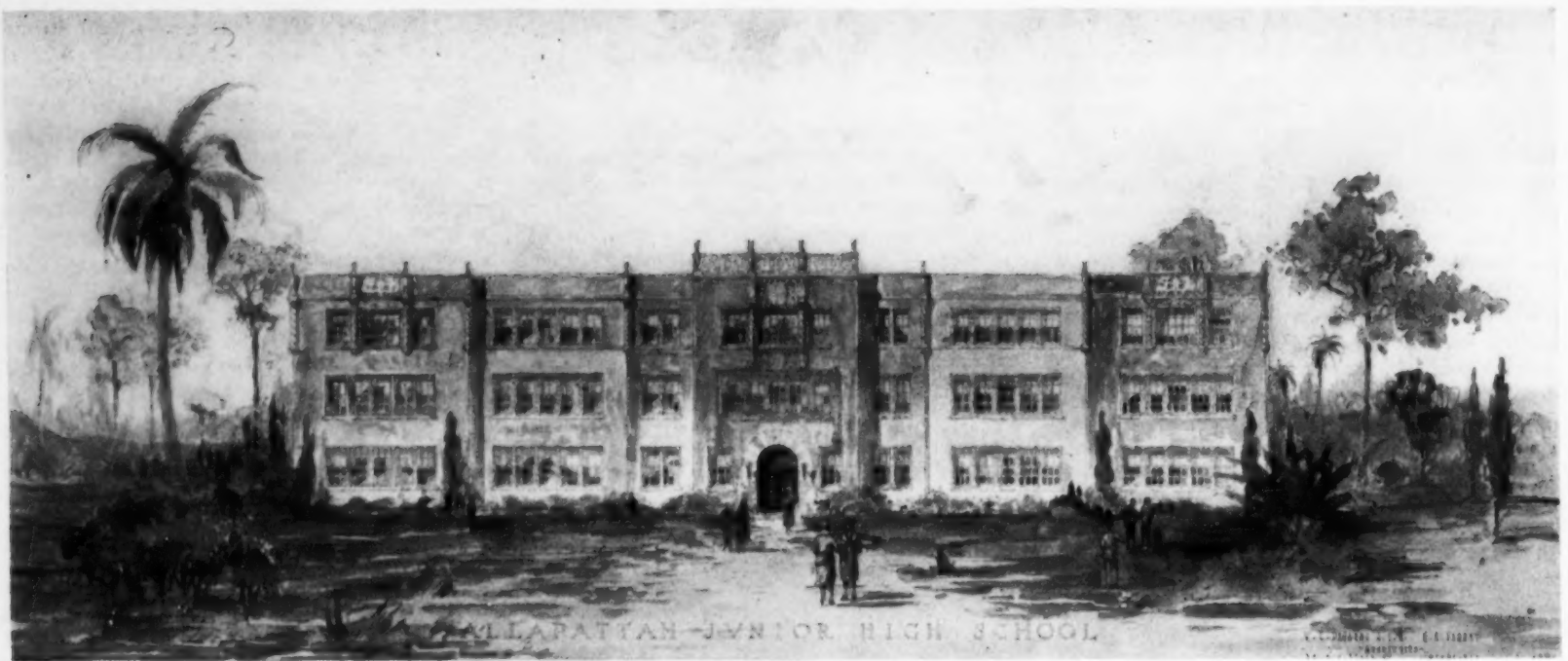
Practically all of the elementary schools of the county were on double shift half-day sessions last year. The school board and the county superintendent, Chas. M. Fisher, started in the winter of 1924-25 to prepare for the increase which they anticipated for 1925-26. An extensive publicity campaign was launched, which resulted in a five million dollar bond issue for school improvements. One and one-half million of this total was appropriated for the purchase of school sites, one-half million was set aside for furniture and equipment, and three million dollars for the erection of new school buildings and the enlargement of existing plants.

Many new sections are being developed throughout the county and these call for new schools; therefore, considerable foresight must be exercised in purchasing school sites to keep pace with the increasing population. During the past year the board has purchased about 65 acres for future buildings as well as for the present building program. Five-acre blocks are being obtained for each of the elementary

schools and a like amount for the junior high schools. These schools will accommodate about one thousand pupils each. The Dade County program calls for a fifteen-acre tract for each senior high school. It is thought that this amount of land will provide ample space for buildings, and for a campus and athletic field for a senior high school with an enrollment of two thousand.

It is also evident that buildings must be erected in such manner as to permit of economical future expansion. Superintendent Fisher and Mr. D. W. Whitman, the supervisor of buildings and equipment, have devised a scheme which somewhat resembles the "Dresslar plan." The first unit is a two-story rectangular building consisting of eleven classrooms 20'x30'x11'6", an office, a library, and four toilet rooms for pupils. Units two and three consist of side wings of ten rooms each, extending to the rear of the original unit, making a U-shaped building. Unit four is a cafeteria, a janitor's apartment, an auditorium, connecting the rear of units two and three, making a completed structure of about 180'x200', enclosing a patio of about 60'x100'. This type of building was adopted as standard for elementary schools.

The junior high school buildings are similar in general layout, except they are three stories high and provide for special departments.



ALLAPATTAH JUNIOR HIGH SCHOOL, MIAMI, FLA.

The writer was called to Dade County as director of building construction to assist the superintendent in administering the building program.

The next step was the appointment of architects to develop the ideas which had been compiled into modern school plants. In May of 1925, fifteen different architectural firms were awarded a total of twenty-nine building projects.

Each architect is given a rather complete set of instructions covering his projects, including such items as location of site, maximum cost, number and size of classrooms, purpose and size of special rooms, number and arrangement of windows and many of the more minute building details. The architects submit tentative sketches of projects to the director of building construction. After these have been approved, the architects proceed to prepare detailed working drawings and specifications under the supervision of the director. As soon as plans and specifications are complete on a project, we advertise for bids. Two weeks are usually allowed for contractors to prepare their proposals; at the end of which time the county school board lets the contract to the lowest bidder who has submitted sufficient bond with his proposal.

The triangle of any building contract is the owner, the architect and the contractor. In school construction, the real owners are the tax payers who vest their authority in the school board and the superintendent. Where any considerable amount of construction is going on, it becomes necessary to delegate this authority and responsibility to some individual who can devote his entire time to it.

As soon as a contract is awarded, the director, the architect and the contractor draw up the contract forms, visit the site and locate the building thereon. From this stage on to the completion and acceptance of the building, the job is in the contractor's hands; but his construction must proceed under the supervision of the architect who is checked by the director and who in turn is responsible to the superintendent and school board.

Each week the architects make written reports to the director of the amount and quality of work accomplished on each project. Bi-weekly the contractors file requisitions for payment. When the requisitions have been approved by both the architect and the director, a check is issued on the bond fund of the special tax school district in which the project is located.

Dade County, Florida has always been noted for her good school buildings and an effort is

now being made to build even better school-houses, both as to quality of construction and design. We are constructing buildings of the fireproof type, reinforced concrete frame work with walls of terra cotta tile and concrete slab floors with wood covering.

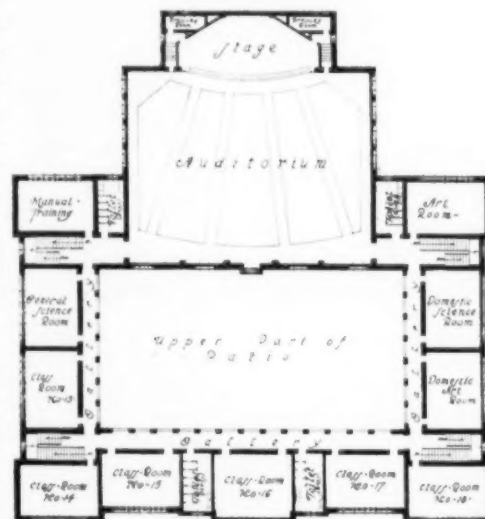
The contracts are let to general contractors who furnish all labor and all material except blackboards, finish hardware and window shades. These items are awarded as separate contracts.

The reinforced concrete buildings in our present program, which have been let to date, are costing 30 cents per cubic foot. This figures

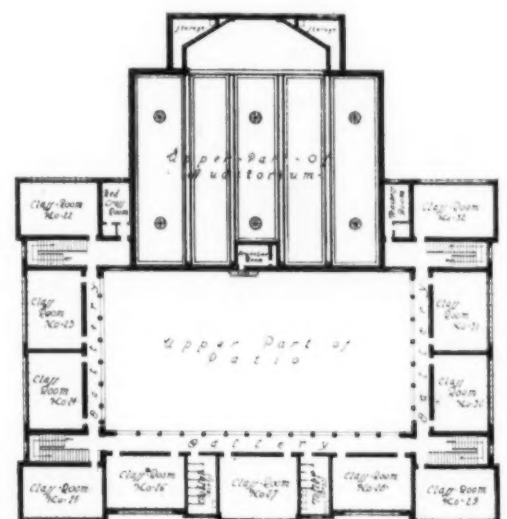
an average of about \$300 per pupil for classroom, cafeteria, auditorium and auxiliary rooms, but exclusive of cost of site and equipment.

We have found considerable saving in standardization of materials. The following are some of the items on which we have standardized: Austral windows, Sloan flush valves, folding translucent window shades, Sargent builders' hardware, and rift sawed pine and maple floors in classrooms.

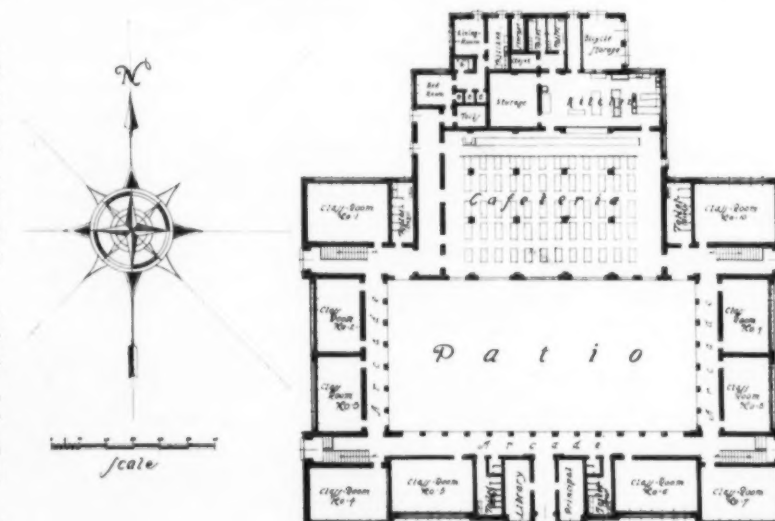
Twenty-nine projects ranging from \$10,000 to \$300,000 were originally planned for the present program. It was soon evident, however, that



Second-Floor Plan



Third-Floor Plan



First-Floor Plan



*Allapattah
Junior
High
School*

Miami Florida

Walter C. De Garmo
Architect
George A. Varney
Miami, Florida



the increased cost of construction would not permit the completion of all 29 projects without additional funds. Two projects were postponed until another bond issue. As contracts were awarded, prices gradually tended upward, each project taking more money than had been allowed in the budget. These conditions made it imperative that three other projects be postponed until our next program.

The five projects which have been postponed and a one and one-half million dollar Miami senior high school will form the nucleus for next year's program which will be overlapped by the present one, as the present program was overlapped by last year's. In fact Dade County's school building program seems to be continuous and will require from three to five million dollars annually for land, buildings, and equipment. Already plans are under consideration for next year's program.

Of the 24 projects in our present program, fourteen are within the present city limits of Miami, fifteen of the projects are new buildings and nine are additions to existing plants. The various buildings in the present program are distributed as to purpose as follows: Three junior high schools, two six-year high schools, fifteen elementary schools, one colored elementary school, one colored junior high school, one vocational school and one boys' dormitory. These buildings will include 267 regular classrooms, five domestic science rooms, five domestic art rooms, four fine art rooms, ten manual training rooms, seven science rooms, eleven cafeterias, ten auditoriums, nine janitors' apartments, fourteen principals' offices, ten libraries, ten teachers' rooms, ninety toilet rooms for pupils, six Red Cross clinics, one gymnasium and one study hall. We expect to complete this three million dollar building program early in the spring of 1926.

Dade County had 474 classrooms last year, 50 asbestos portable one-room buildings have been ordered, ten temporary frame classrooms are under construction, and with the 298 rooms in our regular program which will accommodate classes, we will have 832 classrooms in the county. The enrollment is now 22,000, so if our program were now complete, there would be an average of 26 pupils to each room. Unfortunately, however, our program has been very seriously retarded on account of building material shortage owing to freight congestion and embargo. Even the portable buildings have been delayed in transit. So the problem that

faced the school board and superintendent this past fall was what to do with an increased enrollment of 62½ per cent over last year and no additional housing facilities completed.

It seems that our building program is about one year behind the growth and development of the community, and in all probability it will be a few years before we entirely catch up. The taxpayers of Dade County are giving the schools loyal support, but as the assessed valuation is such a small fraction of the real value, some difficulty is being experienced in getting a tax base sufficiently large to care for the growing needs.

The County Unit of Government

Dade County offers an excellent example of the functioning of the county unit. Our entire building program is administered through the county office. The district trustees, local principals, supervisors and department heads have been consulted regarding the needs of their various schools. This calls for a fine spirit of cooperation throughout the county. Local jealousies would break down the county unit, but happily none exist in Dade County.

Reserving the privilege of changing his mind,

the author of this article advances the following statements concerning school building programs in general:

(1) The county unit of administration is recommended for Florida and could no doubt be worked satisfactorily elsewhere.

(2) Standardization of material may be carried even farther than has so far been done in Dade County, and include such items as plumbing fixtures and roofing. Standardization of exterior design should not be carried too far.

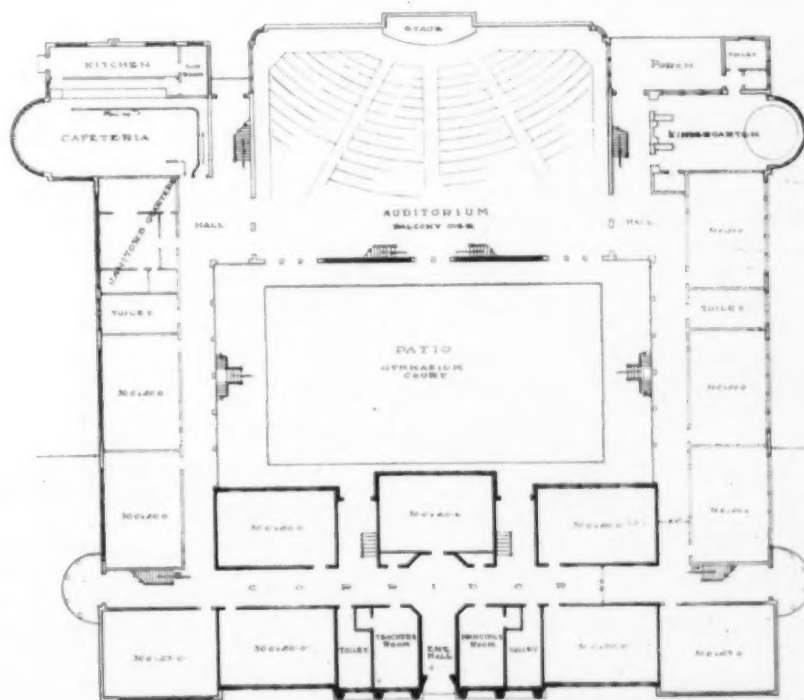
(3) Considerable saving can be realized by letting certain specialized portions of all the projects as one contract, for example, one roofing company may be given the contract to roof all the jobs in one program.

(4) As to the selection of architects, the writer advances the following theories (none of which he claims as original) in the order of preference:

(a) Employ a complete architectural organization on a salary basis.

(b) A county, or any administrative unit, may engage one architect, with his associates, on the regular fee basis with the understanding

(Concluded on Page 168)



FLOOR PLAN OF THE SHADOWLAWN ELEMENTARY SCHOOL, MIAMI, FLA.
Robert Greenfield, Architect.



THE AMERICAN School Board Journal

WM. GEO. BRUCE }
WM. C. BRUCE } Editors

EDITORIAL

THE SCHOOL BUILDING PROGRAM FOR 1926

Those who have watched the trend of schoolhouse construction in this country since the close of the late war have been inclined to believe that the shortage of school seatings would be met in a comparatively few years. The building costs, however, which remained above the pre-war figures caused some hesitation on the part of school authorities in carrying out comprehensive building programs. Thus the shortage has continued, specially in large communities, to the present hour.

The fact that all costs had reached a high level, and that the growing schoolhouse shortage, which in many quarters became increasingly embarrassing, must be met, whether the costs were high or low, led to the resumption of building operations. The larger communities fortified themselves by resorting to surveys and evolving comprehensive building programs covering periods from three to five years.

The indications of activities in this direction became definitely manifest in 1921 when the total bond sales for the year reached the sum of \$245,014,488. They jumped the following year to \$278,598,326 and in 1923 went up to \$290,363,810.

When, therefore, the school bond sales for 1924 ran up to \$308,676,489, it was believed that the peak point had been reached and that from then on a normal level period would set in. The school bond sales for 1925, however, based on the first eleven months of the year will reach the total of \$391,000,000, or 26 per cent higher than they were in 1924, leaving the conclusion that the school building operations for 1926 will be the highest in the history of the country.

Here, of course, it is usually understood that the bonds issued in any one year are in the main expended during the following year. Some of the smaller projects may be realized during the same year that the bonds are issued, more specially if the issue is made during the first half of the year. Again, bond issues may cover a program that is not completed in less than three or five years. But, the bulk of the bond issues for any given year are usually expended during the succeeding year.

If the conclusion here reached is, in the main, correct, then it also follows that the year 1926 will become the banner year in the field of schoolhouse construction. In the larger centers of population the schoolhouse shortage is still acute. Thousands of children are on part-time schooling. The task on the one hand to secure the money with which to construct new buildings and the other to find the contractors that could proceed expeditiously, has not been an easy one. School authorities that have proceeded with a fixed determination to provide more seatings have met with obstacles and discouragements.

General building operations reflect a reinvestment of surplus earnings as well as the

need for more or better housing. While schoolhouse construction is dependent upon the tax ability of the community, it must be provided where a pressing necessity exists whether the necessary funds are at immediate command or must be secured through deferred obligations.

Be it said, however, to the credit of those who are in directive charge of the schools of this country that they have proceeded with their task during the past five years with characteristic American enterprise and energy. The absolute necessity of providing every child with a school seat has never been ignored and, at times, it has required exceptional courage and firmness in meeting trying situations.

The determination to provide good schools, and enough of them in order that the youth of the land may be reared into useful citizenship, has always been and is now the most gratifying factor in the nation's progress and stability.

THE NON-RESIDENT AND LOCAL SCHOOL ADMINISTRATION

Many of the embarrassments which afflict school administrative labors are engendered through the contention that local talent must be recognized and the out of town aspirant must be discountenanced.

The trouble begins when a local architect or contractor seeks preference over the man who does not happen to reside in the same town. The same contention arises when a non-resident is considered for the position of superintendent, principal or teacher against a local aspirant.

The home town spirit sometimes leads to extreme notions. A school board in an eastern town was roundly scored recently when it was discovered that a schoolhouse contract had been awarded to an out of town builder. The fact that this builder was \$2,000 lower than the local man, did not alter the situation. The local man was a taxpayer and his profits would remain at home. That the contract money should be kept in town even if it did cost more money to do so, was the frank contention of a local newspaper.

But rivalry among architects leads to many more fights. The local man has friends, while the out of town firm must rely upon its reputation. The logic of the situation becomes clear, however, when it is remembered that the local architect, who has never planned anything beyond a residence or a store building, is less likely to rear a good school building than is the out of town firm that has experience and achievement to its credit.

Some of the schoolhouses found here and there over this broad land which are clumsily designed, faultily planned, and frequently constructed at an extravagant cost, stand as hideous monuments to a mistaken home town spirit.

In the selection of professional services, as educators everywhere deplore, even more grievous errors are committed. The local incompetent and inexperienced applicant only too frequently receives preference over the non-resident notwithstanding that the latter may have a splendid record to his or her credit.

Community pride is a commendable virtue, but when it is fostered in a selfish spirit, and to the detriment of local interests, it may develop into a costly nuisance. The local aspirant, be he architect, builder or schoolmaster, is entitled to the same consideration that is accorded to the non-resident, but the choice must go in the direction of character, experience and ability rather than locality. The preference can only go to the local applicant whenever he measures up fully to the standards of the non-resident. And here he is clearly entitled to that preference.

When the Boston school board was recently asked to drop from its roll all non-resident teachers it refused to do so on the grounds that all teachers were employed on the basis of char-

acter and fitness. It mattered little whether they resided in a suburb or in the heart of the town as long as they rendered efficient services in the schools.

The tendency on the part of school authorities in recent years has been a gradual departure from the narrow home town idea. They have been less inclined to ask a man whence he came than to learn what service he can render.

EDUCATIONAL LEADERS AND THE SUB- JECT OF TAXATION

A mimeographed communication covering a foolscap page, designated as an open letter dealing with the subject of taxation, has recently been received by the members of the Department of Superintendence of the National Education Association from the so-called Bureau of Scientific Taxation, New York City. The closing paragraph suggests a textbook on taxation for schools and colleges, and invites a reaction on the part of the educators whom it addresses.

The letter after providing several introductory paragraphs, in which the importance of the subject of taxation is outlined, makes the following startling statement: "The principle of levying taxes on the 'ability to pay' theory, is just as unsound as it is to sell merchandise on the same hypothesis. Taxation is nothing more than pay for public services supplied by government, and should be charged for on the basis of value received instead of ability to pay. If our every day business affairs were conducted on the ability to pay theory, the doom of either the business or the theory would be swift and sure."

This is clearly intended a condemnation of the income tax principle. The evolution of taxation covering centuries of experimentation and experience, has led to the acceptance of the "ability to pay" theory. Its soundness, as well as its serviceability, is established. Modern tax economists are well agreed on this point. Wherever the property tax has fallen down, the income tax has come to the rescue.

If the "ability to pay" principle is wrong, then we ask in all sincerity what other principle can legitimately take its place? If it places the burden upon those best able to bear it, then the first requisite in taxation, namely, equity has been complied with. Surely, you cannot tax the man who has nothing to tax, nor can a small income yield a large income tax. Nothing can be more fair and just than an honestly administered graduated income tax based upon the ability of those called upon to pay it. But, the open letter addressed to the educators contains another startling statement. It reads: "The land values of the country are ample to meet all expenses of government. The important thing, however, is not so much the amount of the tax as the manner in which it is distributed. A very heavy load when properly placed on a horse's back can be easily carried, but which could not even be moved if tied to its hind leg."

The experience of the world has taught that the mere evidence of wealth does not yield an adequate tax tribute. Land values are unstable. Some earn the taxes levied upon them, some do not. The fact that hundreds of thousands of parcels of land are sold each year for delinquent taxes, proves that fact.

The statement that tax moneys exacted to pay for the cost of government should be expended on the basis of "value received" is not disputed by any one. To exact on the one hand the tax tribute on the "ability to pay" basis and on the other to expend them on the basis of value received is nevertheless perfectly consistent. Why not? Again, no sane man would suggest that ordinary business should be conducted on the "ability to pay" basis. The analogy is badly chosen.

The letter contains a further paragraph which in reality lets the cat out of the bag and ex-

plains why the income tax is discredited and why land values are urged as the basis of all taxation. It reads as follows:

"Professor John Dewey of Columbia University, whom you well know as a scholar of international reputation, has this to say on the subject: 'For many years, ever since first familiarizing myself with the principle of the so-called single tax, I have regarded it as both theoretically and practically sound, and an indispensable basis of much needed social reform. It is so simple and reasonable that it seems as if all those whose pecuniary interests do not lead them in the opposite direction would accept it.'"

The appeal made by the Bureau of Scientific Taxation then is nothing more nor less than a propaganda movement for the single tax theory. If the educators of the land want to espouse this theory, it is their privilege. We have no quarrel with that end of the question.

Our comment on the single tax theory moreover would be to agree with Prof. John Dewey to the extent that it is both simple and attractive, and then add that it contains a fundamental fallacy, is so ideal as to render its acceptance entirely out of the question. The single tax theory has been agitated in this country for many years, but no statesman or economist has as yet seriously proposed its introduction. It would mean such a revulsion of present-day conceptions on property ownership and taxation method as to remove it to a remoter time.

If a textbook espousing the single tax theory is to go into the schools, then it would be equally consistent to introduce also a textbook on the subject of income taxation. Probably the defenders of the old property tax would insist upon a similar privilege. A comprehensive textbook on the subject must deal with the two existing systems, namely, the property and the income tax, and while it may explain the single tax, it cannot consistently champion that or any other untried theory.

The SCHOOL BOARD JOURNAL is concerned in the subject of taxation only as the same relates to the cause of education. It has espoused better methods in taxation in order that there might be more adequate support for the schools. And we assume that the average schoolmaster is interested in the subject of taxation to the same extent and for the same purpose.

The experience of recent years has taught that the American educator must concern himself with tax reforms that will aid in providing adequate support for the schools—reforms which are within the immediate possibilities of present conditions. The educator who so concerns himself will have neither the inclination nor time to delve into tax theories which cannot for a long time be realized and the promotion of which lie within the province of other forces.

THE EXECUTIVE SCHOOL BOARD SESSIONS AND THE PUBLIC PRESS

The question of executive school board sessions has been discussed so often in these columns that nothing new, it would seem, could be said under that heading. But, there is something new—entirely new—namely, that an enterprising daily newspaper should defend executive or secret school board sessions. Newspaper editors have always held that all matters pertaining to the schools should be discussed in broad daylight.

The Herald of Fall River, Massachusetts, admits that there may be situations in school administrative deliberation when it becomes unwise to engage in publicity. In an editorial it says:

"In the course of the talk when the school committee gathered last week the names of certain school teachers were mentioned. We feel confident in asserting that the intelligent sentiment of the people of the city would prefer that

matters concerning individual teachers be discussed in private. The qualifications and conduct of teachers are a detail of school administration. The citizens under the law entrust the administration of the schools to the school committee, relying upon its judgment in matters of school routine and the supervision of the teaching force. As for the effect of open discussion on the schools, it can be nothing but harmful. Teachers naturally shrink from public comment on their ability as such, and the spirit of service is not going to be improved by a realization that their shortcomings are to be paraded before the public view."

Here the editor clearly recognizes the fact that professional prestige is an asset which may be seriously injured through the undue publicity. But, the editor evidently recognizes, too, that the discipline of the schools is a factor to be considered. He continues his discussion as follows:

"Neither is their influence over their pupils or the discipline of the schoolroom going to be improved. Children are not slow to catch on to matters of this kind and to govern their behavior accordingly. It is not denied that the executive session of such an administrative body offers opportunity for combinations of many sorts that may savor of self-interest. For that matter, it must be admitted, similar combinations formed in conference outside of school headquarters can accomplish the same purpose, so that banning the executive session in order to reveal all that the committee talks about does not convince people who understand the operations of administrative bodies in general.

"No attempt is being made in this connection to defend scheming for private ends in school matters. The point is made, however, that the abandonment of the executive session is not likely to end it. The executive session is the place for the discussion of the qualifications of individual teachers and for claims for and against appointments and transfers, both because the public is not in a position to judge the merits of the discussion, not having the benefit of all the information which the school committee possesses, and because of the bad influence which such discussion has upon the schools."

It has always been held by school administrators that where the morals of teachers and pupils come into question executive school board sessions are permissible. But, newspaper editors have not even admitted that claim. They have held that all deliberations must be open to the public and that finally the question of publicity must be left to the judgment of newspapers themselves.

But, the Fall River editor has come to the same conclusion that all discussions relating to the qualifications of teachers, which necessarily notes their shortcomings, should be done in executive session. It is time that editors elsewhere awaken to the same conclusion.

SCHOOL ELECTIONS AND PUBLIC INTEREST

The strongest indictment made against American citizenship is that it does not comply to the full with its duties at the election polls. It has been estimated that only forty per cent of the legal voters in this country exercise their suffrage rights.

What applies to general local, state, and national elections applies with exceptional force to school elections. The complaint is urged from time to time that school elections have been attended by a meagre vote, and that thereby desired ends and purposes have gone wrong.

School elections are just as important as are elections dealing with the choice of other municipal or state officials. The men and women to be chosen for board of education service should be chosen with more than ordinary care. School administration constitutes an important function. The character and ability of school board members counts for much in the maintenance of an efficient school system.

It is frequently recorded that in some communities an important school board election has brought out only one-third or one-fifth of the

vote. Such apathy is not for the best interests of the schools. High class candidates may thereby be defeated and needed school bond issues may be lost.

There are instances, of course, where there is no contest. Board members who have proven highly satisfactory are presented for reelection and everybody is agreed as to their choice. But, there are many instances where the contest lies between desirable and undesirable candidates, where the desirable may deem it undignified to make a scramble for the office while the undesirable may enlist enough votes to ensure an election.

A board of education should reflect the best impulse of the community, and it is through a full expression of the popular will that the most desirable citizenship can be enlisted to service.

It is frequently asserted that apathy in school elections means approval or the feeling that things are going along all right. To a certain extent that may be true, but it follows, with greater force that the highest incentive that can come to any school system is the consciousness that the whole community stands loyally behind it. That loyalty implies an active concern in the welfare of the schools and which finds its proper expression at the polls when a school election is in progress.

PUBLIC CONCERN IN SCHOOL BOARD DELIBERATION

The interest which the general public manifests in school administration as demonstrated in the newspapers, varies in the several centers of population from an utter indifference to the most intense concern. Where complete silence prevails as far as the press is concerned, the assumption must be that the public is satisfied with the manner in which the school system is conducted.

Silence, however, or at least a state of complete harmony, may mean the prevalence of stagnation. The school authorities may sink into a complacency that ignores progress, the public believing that things are going along satisfactorily, or else to let well enough alone. The apathy manifested at school board elections is indicative of that condition.

On the other hand, there are communities in which the school authorities are exposed to a public tutelage that is not without its embarrassing situation. Every act is subjected to interpretation, sometimes just, frequently unjust.

During the past few years no board of education has been subjected to a closer scrutiny by press and public than that of Indianapolis, Indiana. At the November election five members were elected to that body. There were over twenty candidates. Citizens' committees were organized to promote the campaign. A record of every candidate was presented. The process of selection and elimination was aggressively pursued.

The cause of this intense interest must be found in the fact that a previous board did a few things to impair public confidence. The press saw a duty to perform. The succeeding boards came under the microscope. Important departures along the lines of building and finance was analyzed by civic and commercial bodies. A state board checked up on the taxation side of things. The eyes of the taxpayer were on the school authorities. They were exposed like a goldfish in a bowl of water.

While a situation of this character may prove irritating to those who loyally serve the public school interests, it must on the whole be deemed wholesome nevertheless. The irrational and unfair may come to the surface but public sentiment in the main eventually asserts itself in the direction of justice and expediency.

School Building Maintenance

I. Introduction: The Importance of School Building Maintenance

H. E. Ramsey, Maintenance Engineer, Detroit, Mich.

Not many years ago the loss of several hundred lives during a great catastrophe at sea, suddenly brought the failure of the inconspicuous lifeboat into sudden prominence. Much was written and said about the matter and then after a while the public mind turned to other things. Because one fire extinguisher failed to work, a large factory burned to the ground several years ago, destroying much valuable property and throwing many people out of employment in the dead of winter. Every once in a while we read of some disastrous result of a fire, wreck, or explosion, and in practically every case the cause can be traced to the absence or perhaps the lack of maintenance of some safety device.

Hazards in Schoolhouses

For a good many years the public seemed to disregard public hazards, awakening momentarily upon the news of each successive disaster. Too often innocent lives were sacrificed because of "defective wiring", "insufficient exits", or "faulty fire escapes". Then came a period when the remedies for these things were considered more intelligently, and now we find ourselves surrounded by many wise laws and codes which at least prescribe the installation of safety devices. Our legislation has not yet progressed to include proper inspection and maintenance of safety devices, and herein lies the next forward step for our protection.

The best safety devices are useless unless they are properly looked after. Without wishing to express a pessimistic thought, it is only fair to say that we do not realize the great number of hazards which are constantly about us. The average school building contains no less than fifty hazards, any one of which may cause a serious mishap. When this fact is considered the importance of the proper and constant maintenance of school buildings becomes at once apparent. No matter how well designed or constructed a building may be or how many guards may be placed on the equipment, there is ever present the depreciation of the various parts because of the action of the elements, wear and tear of ordinary usage, and some abuse. The wearing action may be slow, like that produced by the corroding effect of certain chemical constituents of the air upon masonry, or the wear of countless shoes upon stair treads; or it may be very rapid as is evidenced in the bearings of some machine which is in constant use. And again wear and collapse may be very sudden as so often happens when a manual training saw is persistently overloaded or a janitor mistreats his heating plant.

It has been said that some industrial plants prefer to carry fire and liability insurance rather than spend too much time looking after these things. With teachers and school children, however, the moral responsibility cannot be measured in terms of insurance policies. Teachers and children must be kept safe at all times. A few weeks ago I read of a child being killed because a defective swing frame came down upon it. Compare the loss of that little girl from a happy home to the small cost of inspecting and repairing that particular piece of playground apparatus.

Teaching Efficiency and Maintenance

The importance of school maintenance may be further realized when one considers the direct bearing it may have upon teaching efficiency. It is, of course, obvious that a teacher and her class cannot best do their work in a poorly lighted, cold, and inadequately ventilated classroom. The correct condition of such major items of the school plant as heat, ventilation

and lighting have been, and should be taken for granted. But, there are also a great many other seemingly smaller items in the school building which concern the convenience and comfort of teachers and pupils, and which tend to distract from the efficiency of the school, if not properly installed and maintained. The blackboards, clock, desks, chairs, and other articles of commonplace name are all tools of the daily work of the school and must not only be kept in repair, but have a cheerful and inviting atmosphere.

Some time ago, when confronted with the problem of providing an additional classroom in a certain building, I found that it would be most expedient to utilize some waste space in an over-sized toilet room. It was indeed gratifying to see how well the teacher liked this new room and volunteered the information that she preferred it to her old room. And this was due to the fact that a bright, clean, and cheery atmosphere had been produced by selecting the proper color scheme in the painting and by providing a new desk and other equipment, which entirely overcame the thought that the space had been used as a toilet room. A striking illustration of the increased efficiency in teaching resulting from a comparatively inexpensive improvement was recently related to me by a manual training supervisor. He estimated that the work of the boys in a certain wood working shop had been made doubly effective because of the refinishing of the bench tops. Incidentally a great measure of pride in taking care of public property was installed into the lads.

The daily task of the average teacher includes the worries incident to the development of the daily lessons and instruction materials, the maintenance of class discipline, the preparations of reports, difficulties with subnormal mentalities, and many other duties. It is needless to say that, if in addition to the above, the corridor door won't stay shut, the windows can't be opened, the clock keeps stopping, and she must sit in a wobbly chair at a dirty desk, the drawer of which cannot be unlocked, the teacher is quite likely to become discontented. And, further, if these and many other annoying things, not to mention an occasional lack of heat, are constantly interfering with her peace of mind she may "take it out" on the kiddies, and at the end of the term look for another position, where she hopes they take better care of things. Teaching school is nerve wracking at times, and it is no wonder that some teachers become as temperamental as the proverbial

cook. It is the accumulation of a large number of very petty annoyances, which often culminates in such a degree of dissatisfaction that a teacher decides to leave. The annual turn-over of teachers is an expensive item in school costs.

Now, I realize that to some readers this paper up to this point may seem like a very unnecessary elucidation of the fine points of a very commonplace and hackneyed subject, but it is nevertheless true that the contentment of the teaching staff is a very valuable asset to any school system and the proper maintenance of buildings and equipment plays a very considerable part in producing this happy condition. It may be likened to the good-will of a corporation. I am sure that any school board would profit by overhearing the remarks of their teaching staff on this point.

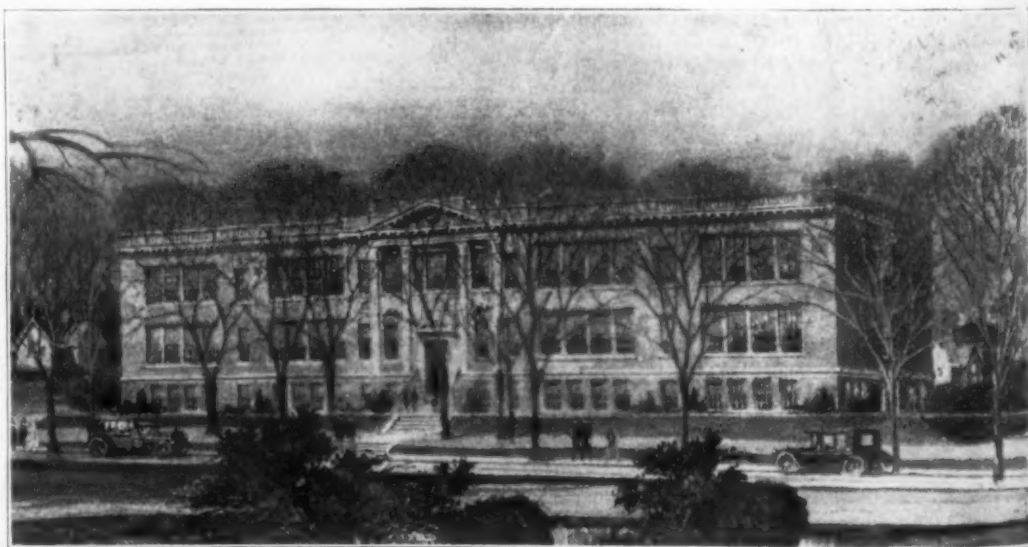
It is to be lamented that the average teacher does not complain about the conditions in her room, or if she does, it does not reach headquarters. In other words, if you are to expect the best results from the principals and teachers you must keep your buildings in good, serviceable condition.

The Economy of Maintenance

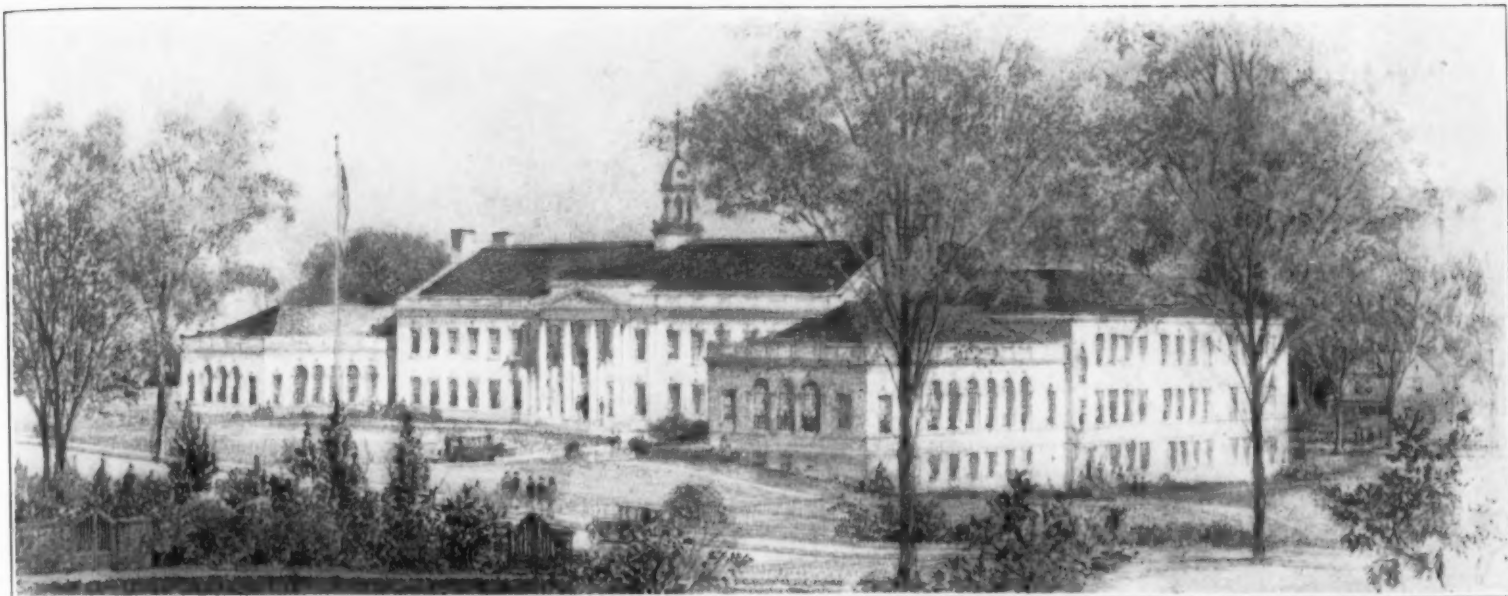
There is still another very important phase of school maintenance, which is very commonly overlooked. Maintenance as the counterpoint of depreciation should, like the latter, be constantly on the job. Depreciation goes on whether we want it to or not. Further, school depreciation is essentially different from the depreciation of other types of buildings and equipment in that the buildings and equipment are idle for a portion of each year. Crystallization and corrosion set in when working parts of valves, etc., which are normally projected from the air by water, are continually exposed for several months at a time. This action may be compared to the difficulties of an athlete who keeps "in condition" only during the training season.

As a boy I was impressed by the story of the little Holland boy who discovered the leak in the dike, which he stopped by putting his finger in the hole. If this had not been done, it would not have been long before a serious break in the dike would have occurred and a disaster would have followed. In much the same way a great many minor repairs are necessary around school buildings, which if not taken care of in a reasonable time, will develop into serious and costly repair jobs. Constant maintenance is economical maintenance. Spasmodic maintenance is the most costly maintenance. Leaving aside the considerations of the possibilities of serious accidents between periods of attention and the effect on teaching morale and contentment as described above, it is very necessary from an

(Continued on Page 168)



RAND ELEMENTARY SCHOOL, MONTCLAIR, N. J.
Starrett & Van Vleck, Architects, New York, N. Y.



GEORGE INNESS JUNIOR HIGH SCHOOL, MONTCLAIR, N. J.

Starrett & Van Vleck, Architects, New York, N. Y.

MONTCLAIR'S SCHOOL BUILDING PROGRAM**Willard S. Elsbree, Montclair, N. J.**

The Montclair, N. J., board of education has just recently voted a school building program designed to care for Montclair's needs for many years to come. The program is one with a vision and is the result of several months of study on the part of Superintendent Frank G. Pickell, his staff and the board of education. Upon the recommendation of the superintendent, the board had the assistance of Drs. G. D. Strayer and N. L. Engelhardt, who made a survey of Montclair's elementary school housing needs and made recommendations to the board which were favorably acted upon.

Previous to this specific survey, the superintendent had begun a study of the school housing situation, and his annual report of 1924 recommended definitely a remodeling of the administration building, the erection of a new shop building for junior high school pupils, a complete new junior high school to care for the pupils now housed in the senior high school building, and the immediate erection of a new elementary unit to replace an old obsolete building. These recommendations met with the approval of the board, and Superintendent Pickell asked for more time to complete a comprehensive study of future needs.

The Administration building has been remodeled with modern offices for the following departments: superintendent of schools, assistant superintendent, secretary to the superintendent, research, purchasing, finance, elementary supervisor, music, health education, supervisor of art, dental clinic, and attendance. The other recommendations made by the superintendent in his annual report were immediately acted upon and a survey of the elementary school housing needs was made.

The survey included a careful study of vacant lots in Montclair looking toward the future development of the city, spot maps showing the distribution of elementary and junior high school pupils, a study of recent growth as indicated by dwelling permits and telephone changes, an analysis of Montclair's growth over a long period of time as a basis for predicting the probable future population as well as school population, and a study of various other local factors entering into the problem. Objective data concerning all of these factors were presented for the consideration of the board and every phase of the problem was carefully studied.

The following quotation is taken from the memorandum of the board of education, June 8, 1925:



BRADFORD ELEMENTARY SCHOOL, MONTCLAIR, N. J.

Starrett & Van Vleck, Architects, New York, N. Y.

"The board of education has studied these problems intensively since last September, has had numerous conferences with committees of citizens and several public meetings. It has also received and considered statistical studies, briefs and reports. Its members have repeatedly traveled through the districts in question, inspected sites, and discussed the problem in all its phases, and are unanimous in the conclusion reached."

The program resulting from the survey calls for the erection of two new elementary units, each to accommodate approximately 400 pupils, the purchase of a site for a future elementary

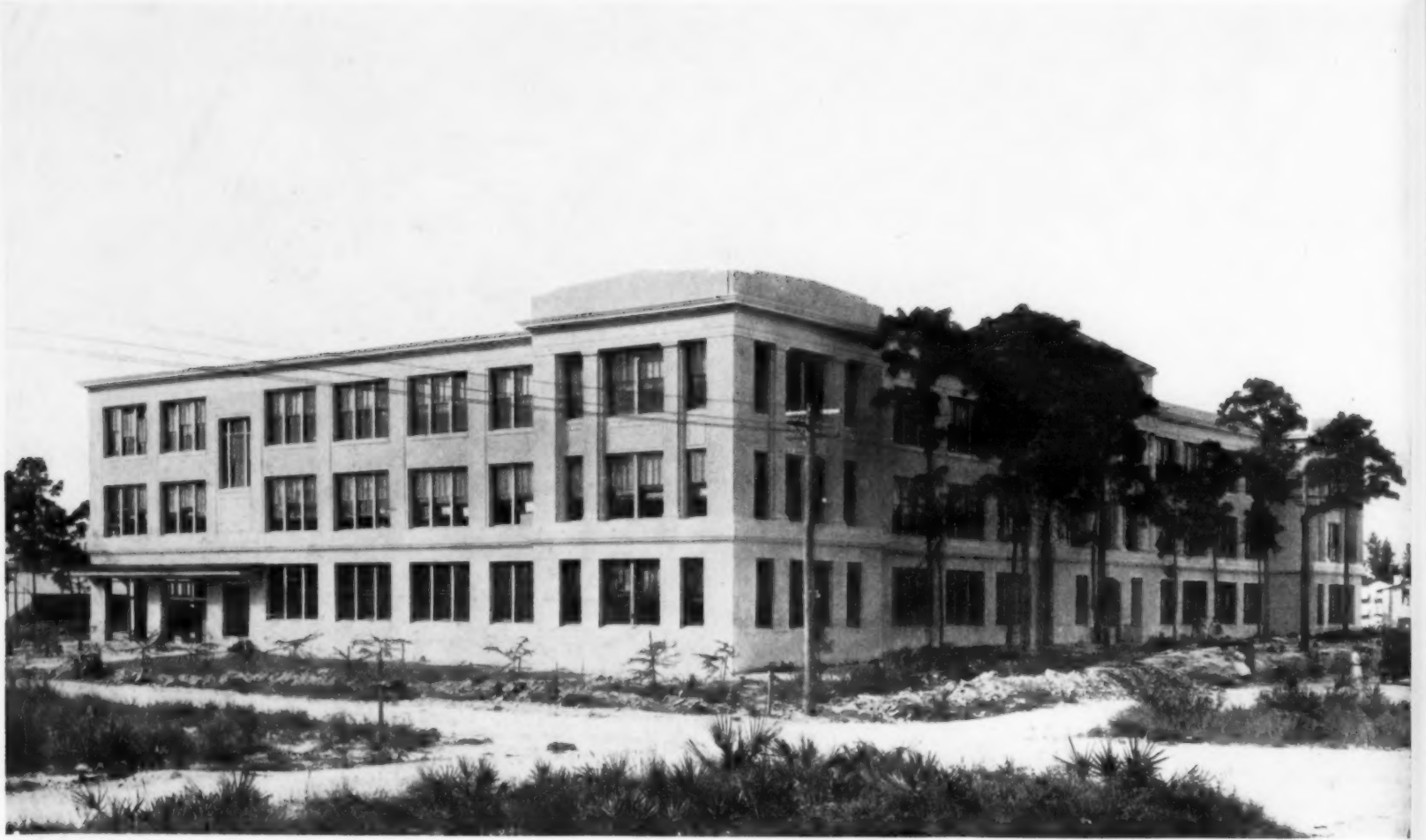
building to be erected when needed, the replacement of an old elementary unit, and the enlargement of present playgrounds to a point far beyond the minimum requirement of 100 square feet per child. The cost of the whole program will be approximately \$2,000,000 at completion and will provide accommodations for 2,200 children. The new junior high school to be known as the George Inness School, in honor of America's famous painter, whose home was in Montclair, will cost \$530,000.

(Concluded on Page 153)



EDGEMONT SCHOOL, MONTCLAIR, N. J.

Starrett & Van Vleck, Architects, New York, N. Y.



ROBERT E. LEE JUNIOR HIGH SCHOOL, MIAMI, FLA.
H. H. MUNDY, ARCHITECT, MIAMI, FLA.



ADA MERRITT JUNIOR HIGH SCHOOL, MIAMI, FLA.
H. H. MUNDY, ARCHITECT, MIAMI, FLA.
(See Pages 83, 84 and 85.)



EXTERIOR VIEW.

LINCOLN SCHOOL, HUNTINGTON, L. I.
PARKER & GALOW, ARCHITECTS, NEW YORK, N. Y.**THE LINCOLN SCHOOL, HUNTINGTON, L. I., N. Y.**

The Lincoln School, at Huntington Station, Long Island, has been planned to accommodate a grade school of standard type. The building contains fifteen classrooms and an assembly hall, and was completed in June, 1924.

The exterior is of simple design and the embellishment has been limited to the front entrances and to a few spots which relieve the absolute bareness of the walls. The construction is of reinforced concrete, with rough clinker brick on the exterior and hollow tile interior walls. The trim consists of buff terra cotta.

The building faces north, so that all classrooms except one have east or west exposure and receive a maximum amount of sunlight. The assembly hall is between the side corridors and receives the south sun. The arrangement, as will be seen from the plans, permits of the

use of the auditorium without interference with the classrooms.

On the ground floor there are play rooms, toilets, space for the heating and ventilating apparatus, and rooms for manual training and domestic science. The administrative offices, a rest room for teachers, and space for the nurse occupy the rooms adjoining the two front entrances on the first floor. There are also on this floor five standard classrooms and a kindergarten. The main floor of the assembly hall, which seats 350 people may be entered from the first floor corridors.

Seven standard classrooms are located on the second floor. Easy access and exit is provided by means of four stairways. Supplementary toilets are also located on this floor.

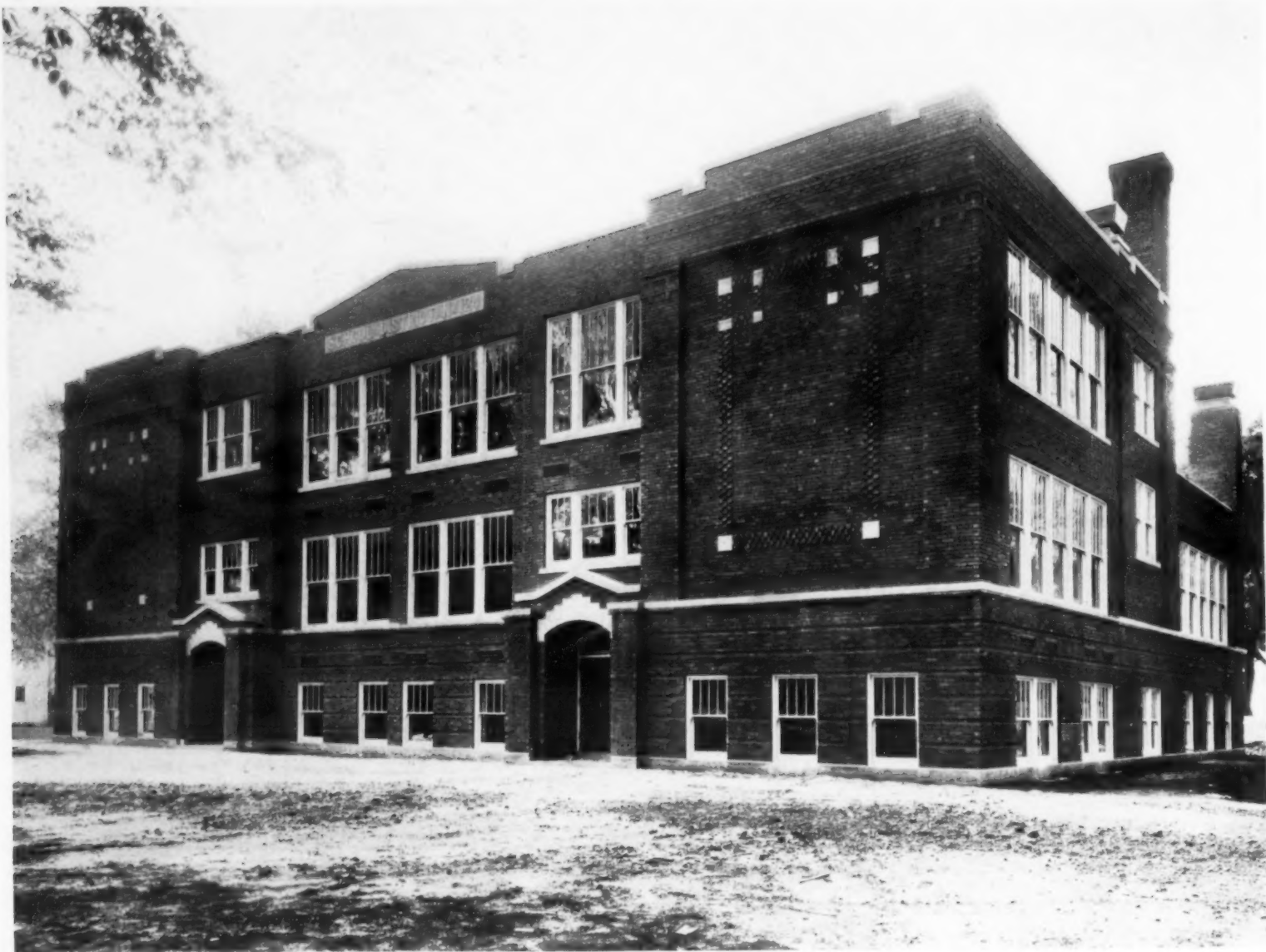
The building is heated and ventilated by means of unit ventilators. The building cost a total of \$226,000. The architects were Messrs.

Parker & Galow, 17 East 42nd Street, New York, N. Y.

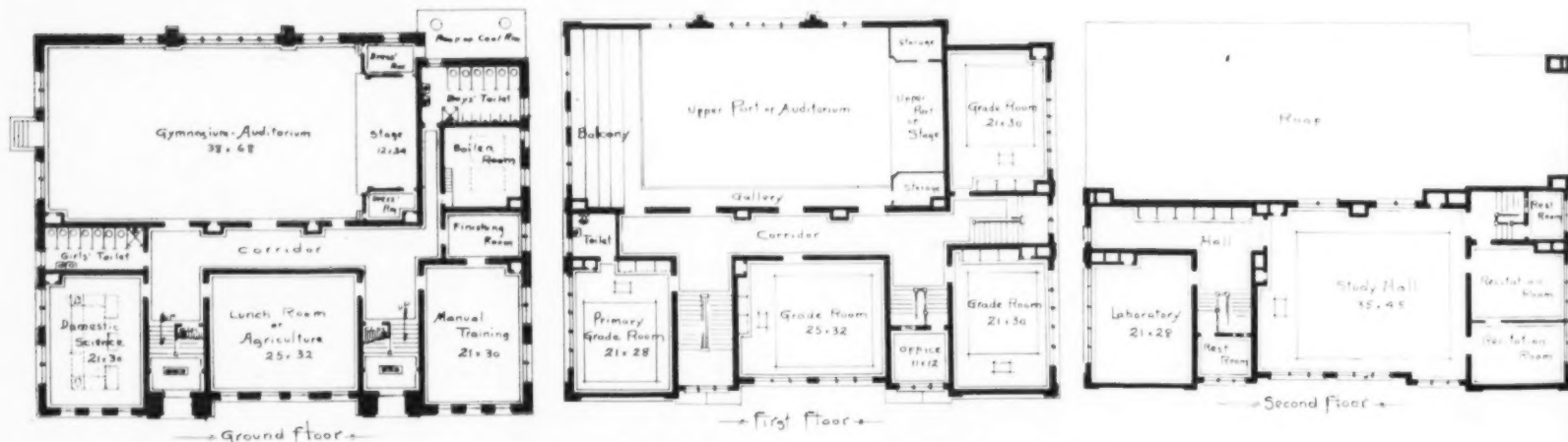
THE CONSOLIDATED RURAL SCHOOL
Edgar A. Payne, Architect

The rapid disappearance of the small one-room school, with its lack of suitable equipment and its ill-prepared teachers, is really remarkable. If the sentiment in favor of the consolidation of rural schools continues to crystallize as rapidly as it has during the last few years, the majority of the farm boys and girls will soon have all the privileges and conveniences of our best city school systems. They will be given the opportunity of occupying positions of leadership which have long been denied them because of inadequate educational facilities.

The consolidated school has been in existence in this country for a century, but only recently has it attracted its well deserved nation-wide attention. Within the past decade the farmer



EXTERIOR VIEW.



DISTRICT SCHOOL No. 124, WINNEBAGO, ILL.

EDGAR A. PAYNE, ARCHITECT, CARTHAGE, ILL.

has come to realize that his children need as good an education as is offered in the towns and cities, and the consolidation of rural schools is being urged in all parts of the country as the best means of providing this education. In consolidation or grouping together of several small school districts, one central school is operated by a corps of efficient teachers under the management of one school board, resulting in better teacherage, improved health of pupils by properly lighted, heated and ventilated buildings. Scholars from any considerable distance are brought in buses, generally provided by the district. In the larger schools good cooking equipment can be installed and a hot lunch provided every noon, resulting in more robust children and better school work.

The centrally located consolidated high school in the district enables the country children to secure a high school education, which is being demanded more every year. The consolidated

school is not only better for the pupils, but for the parents as well by providing a community center and place for holding lectures, farmers' clubs, extension courses, and community picnics. Thus the consolidated rural school building is unique and in a class of its own, requiring its own architecture and adaptations. Certain great standards that govern all schools will be applied, but in the main it is an original conformity to new conditions and needs.

The building is the heart of the consolidated school plan and should be thoroughly adapted to the purposes for which consolidation has been made. It should preferably be years in advance of educational thinking rather than behind it, as the cause deserves the best that modern science and invention can devise and is of too great importance to be damned at the outset by a poor building, and far too often is the contract for architectural service given to some man who has built a few country or town houses, stores

and barns, and who probably has no conception of proper school architecture as developed by expert school architects of today.

The selection of the design for the new building is an important problem for the school board about to build, and should result in one meeting all requirements of style and arrangement in conformity with the best standards of school work. Good architecture, as expressed by a well designed school building, adds materially in the building up of a community, boosts our own civic pride and makes a more favorable impression on the homeseeker. The building need not be expensive, and yet financial sacrifice in putting up a first class building completely fireproof and safe is as worthy as any to be made in this life. High roofs, stairways and fancy decorations may well be curtailed in order to allow of more roomy working accommodations in the various departments.

(Concluded on Page 153)



How they tested Varnish at Peabody College—

"House Furnishing and Care" is one of the courses of the Home Economics Department at George Peabody College for Teachers, Nashville, Tennessee. In connection with this course, the Department decided to conduct a scientific and absolutely impartial test as to the relative durability of floor finishes.

Test Number One: a long, narrow walkway was constructed and marked off into twenty-two test sections. One-third of the walkway was finished with different brands of varnish; one-third with oil preparations; the remainder with paints.

A railing paralleled the walkway, thus compelling the several hundred students who entered the building daily to traverse the entire length of the walk. The amount of wear received was undoubtedly equivalent to many years' of ordinary use.

At the end of the testing period—approximately six months—the comparative durability of the different finishes was judged by faculty members and graduate

students—seventy-three in all. Of the twenty-two test sections, number 5, finished with Valentine's Valspar, showed the least wear *and won the test!*

Test Number Two: the walkway was then taken up and placed in the garage as a runway for automobiles. For six months it was subjected to constant drenchings while cars were being washed. At the end of this period the different finishes were carefully judged—and *Valspar scored first place again!*

Not a drop of water had penetrated the wood of the Valsparred section, thus proving the *absolute waterproofness* and unequalled durability of the Valspar film. As for the other sections, the finishes were destroyed, allowing the water to soak into the wood.

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SCHOOL BUILDING PROGRAMS 1925-1926—SUMMARIES OF ACTIVITIES IN 214 CITIES.

(Continued from Page 42)

yet for the year 1926, and the building program is one-half completed at the present time.

CONNECTICUT

BRIDGEPORT, CONN.—Supt. C. R. Reed recently presented his proposed five-year building program to the board of education. The report recommended the adoption of the six-three-three plan and the erection of five junior high school buildings. The completion of the Warren Harding High School at a cost of \$1,500,000, has relieved the high school situation for some time.

NEW HAVEN, CONN.—The total amount involved in the building program for 1926 is \$1,000,000, which is to be expended for new junior high schools. All construction work for 1925 has now been completed.

STAMFORD, CONN.—The schools have a building program amounting to a total expenditure of \$2,000,000. Construction work involving an expenditure of \$325,000 has been started. It is planned to carry out new construction work during 1926 amounting to \$1,675,000.

WATERBURY, CONN.—An addition of nine rooms is being erected for a grammar school, to cost about \$226,000. This will be all the construction work to be undertaken in 1926.

DELAWARE

WILMINGTON, DEL.—The total amount of the building program has not been determined but it will probably be from \$8,000,000 to \$10,000,000. No new construction work has been planned for 1926, but it is probable that some building projects may be undertaken. The estimated total amount of schoolhouse construction now in progress is \$1,200,000. One building costing \$500,000 has been completed and occupied.

DISTRICT OF COLUMBIA

WASHINGTON, D. C.—Congress recently authorized a five-year school building program for the city and it will be necessary to provide an expenditure of at least \$4,000,000 each year for five years to fully meet the need. Three junior high schools and one senior high school have been partially completed. Plans have been completed for seven elementary schools amounting to an expenditure of \$1,270,000; one junior high school to cost about \$100,000, and four senior high schools to cost approximately \$179,500. Sites have been purchased for ten schools to be erected under the building program.

GEORGIA

ATLANTA, GA.—The estimated amount necessary to complete the building program is \$5,000,000. Definite plans have not been made and bonds have not as yet been issued for building purposes. The estimated amount for current building purposes is \$150,000.

AUGUSTA, GA.—The total amount involved in schoolhouse construction now in progress is estimated at \$450,000.

COLUMBUS, GA.—The total amount involved in the building program for 1926 is \$60,000, which is to be expended for an addition to the industrial high school and for the remodeling of a grammar school. The estimated total amount of schoolhouse construction now in progress is \$325,000 for a high school and a colored grammar school.

SAVANNAH, GA.—During the school year 1925-1926 the school board plans to erect an elementary school of 22 rooms and auditorium, and also two smaller schools of four to eight rooms.

ILLINOIS

AURORA, W. S.—For the year 1926 the school board plans the erection of an addition to a grade school, to cost about \$35,000. Schoolhouse construction now in progress involves an expenditure of \$4,500 for a kindergarten bungalow.

BLOOMINGTON, ILL.—The school system has had no bond issue for buildings erected since 1914. A grade school costing \$300,000 has been completed; the building was erected with funds provided entirely by taxation.

CHICAGO, ILL.—The total amount involved in the building program is \$16,000,000 for the next five years. The total amount of schoolhouse construction now in progress is \$19,500,000, while construction work to be begun in 1926 will amount to approximately \$21,000,000.

CICERO, ILL.—The total amount involved in the present building program has not been definitely determined. The board has not ended one contract and begun another for about three years, which has been attributed to the rapid growth of the school district.

During the year 1925 an addition to the main high school building was completed, at a cost of \$600,000. An auditorium for the north end of the building will be completed during the year 1926, at a cost of \$750,000 or \$800,000. About the time this section is finished, a third section will be begun, to cost about \$4,000 or \$5,000.

DECATUR, ILL.—A total of \$467,000 is involved in the school building program which is just being completed.

ELGIN, ILL.—No building program is contemplated at the present time and no new construction work is at present in progress.

EVANSTON, ILL.—A building program involving an expenditure of \$175,000 is now in progress. New construction work to be started during the year 1926-1927 will require an expenditure of \$350,000.

JOLIET, ILL.—The school board expects to complete the present building program. The estimated total amount involved in schoolhouse construction now in progress is about \$200,000.

OAK PARK, ILL.—The school board has a building program involving an expenditure of approximately \$800,000 but funds are not available because of a limitation of the bonding power of the schools. The board has completed the erection of two buildings totalling \$375,000 and there are no buildings under construction at present. For the year 1926 it is planned to undertake a building project costing approximately \$150,000, which will be the limit of the resources available.

QUINCY, ILL.—The building program will cover several years and will require an expenditure of about a million-and-a-half dollars. It will include extensive additions to the high school and probably four or five new grade schools. The school board has completed the erection of a junior high school addition costing \$225,000, a new grade school costing \$125,000, and another grade school costing \$225,000. New construction work for 1926 involves the erection of a grade school to cost \$125,000.

ROCKFORD, ILL.—The school building program involves an expenditure of about \$1,000,000. New construction work includes the erection of a junior high school.

INDIANA

ANDERSON, IND.—The total amount involved in the present building program is \$230,000. New construction work for 1926 will include the erection of a new grade school at a cost of \$150,000, and alterations to the junior high school at a cost of \$80,000.

EAST CHICAGO, IND.—No building program has as yet been developed but it is planned to undertake considerable new schoolhouse construction work within the next two years.

EVANSVILLE, IND.—The school board has a building program involving an expenditure of \$458,235 for 1925, and \$379,000 for 1926. The estimated total amount of schoolhouse construction now in progress is \$450,000.

FORT WAYNE, IND.—The school board has caught up with its housing needs accumulated since the war period and will in the future endeavor to meet demands as they arise. A new high school is now in process of construction, to cost about \$925,000. For the year 1926 it is planned to expend \$250,000 in additional schoolhouse construction.

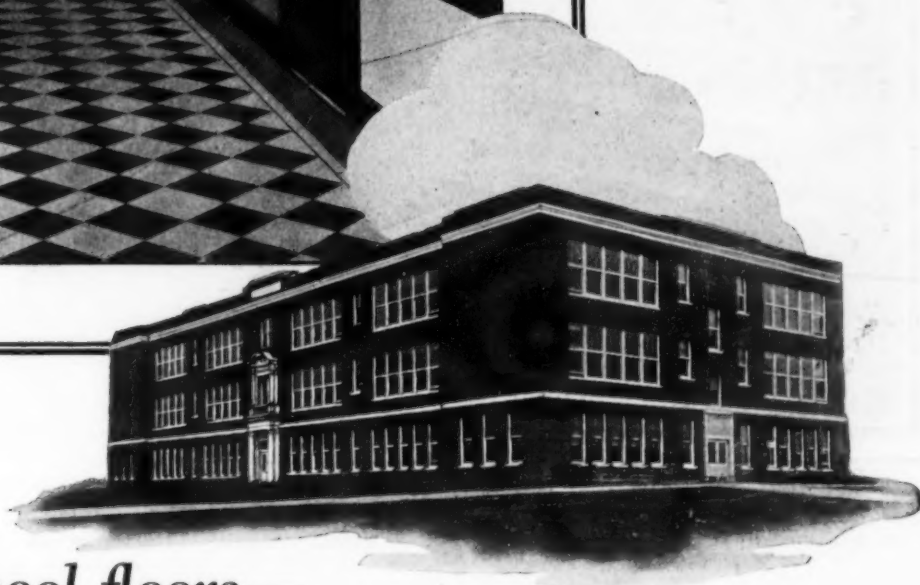
GARY, IND.—The school board has a building program involving an expenditure of \$1,100,000. The total estimated amount of schoolhouse construction for 1925 is \$400,000, with practically all 1925 buildings completed.

INDIANAPOLIS, IND.—The school board has adopted an extensive building program for the present year involving the erection of a new high school to cost \$1,200,000, and two grade schools to cost \$155,000 and \$145,000, or a total of \$300,000. During the year 1926 it is planned to erect six new grade schools and additions, at a total cost of \$850,000.

(Continued on Page 96)



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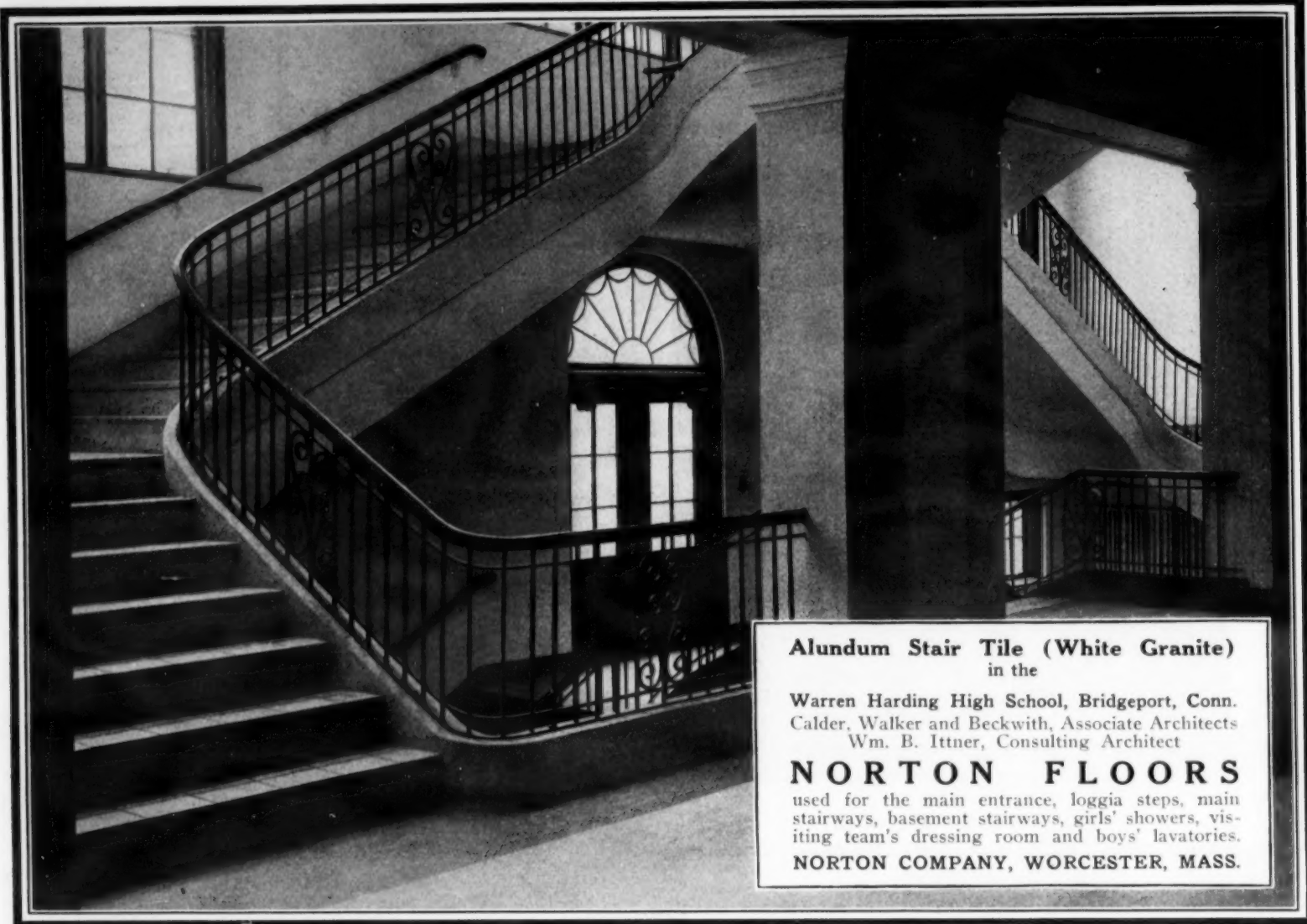
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NORTON COMPANY, WORCESTER, MASS.

(Continued from Page 94)
Schoolhouse construction work now in progress includes the erection of two high schools costing \$467,000 and \$532,000, and one grade school costing \$90,000, or a total of \$1,089,000.

KOKOMO, IND.—A junior high school costing \$350,000 will be begun in 1926. The estimated total amount involved in schoolhouse construction now in progress is \$25,000.

RICHMOND, IND.—The school board's building program for 1926 will include the erection of a combination elementary and junior high school to cost \$180,000, and an addition to a grade school to cost \$40,000. No schoolhouse construction work is now in progress.

SOUTH BEND, IND.—The school board has a building program requiring an expenditure of about \$1,000,000. The estimated total amount involved in schoolhouse construction now in progress is \$450,000.

TERRE HAUTE, IND.—A school bond issue of \$900,000 was voted on November 13th and plans are being made to begin an extensive building program. Of the total amount, \$48,000 will go for the erection of shops at the Gerstmeier Technical High School; \$47,000 for the addition of an annex to the Lincoln colored school; \$88,000 for an annex to the Washington colored school, and \$625,000 for a third junior high school. The balance of the money will be used for the purchase of new sites upon which buildings will be later erected. Contracts for construction work will be awarded and work will begin before the close of the calendar year.

IOWA

COUNCIL BLUFFS, IA.—No definite amount of money has as yet been authorized for school construction work. All building projects for the current year have been completed.

DAVENPORT, IA.—The board has adopted no building program and does not as yet contemplate any new construction work for the year 1926.

DUBUQUE, IA.—The building program was completed a year ago and no new construction work is planned for several years.

WATERLOO (EAST), IA.—The school board plans the erection of a new school in 1926, to cost approximately \$100,000. No school construction work is now in progress.

WATERLOO (WEST), IA.—The estimated total amount of schoolhouse construction now in progress is \$5,000. No new construction work for the year 1926 is planned.

KANSAS

TOPEKA, KANS.—The total amount involved in the present building program is \$175,000. The estimated total amount of schoolhouse construction now in progress is \$970,000.

KENTUCKY

COVINGTON, KY.—The total amount involved in the present building program is \$425,000. No school-

house construction work is at present in progress.

LEXINGTON, KY.—The total amount involved in the present building program is \$400,000.

LOUISVILLE, KY.—A \$5,000,000 school bond issue was recently voted and it is planned to expend from \$2,000,000 to \$3,000,000 for new school buildings during the year 1926. At present the board has under construction a new trade school to cost \$250,000.

LOUISIANA

NEW ORLEANS, LA.—From present indications it is predicted that the program for new school construction will reach \$2,500,000. The school board has received bids for the Craig School, to cost about \$250,000; plans have also been completed for the McDonough No. 9 School, to cost \$325,000, the Henry W. Allen School, to cost \$350,000, and the McDonough No. 8 School, to cost \$180,000. The board has under construction at the present time four schools, each totaling \$266,000, \$117,000, \$81,000, and \$85,000 respectively.

MARYLAND

BALTIMORE, MD.—The Public Improvement Commission has adopted a building program covering approximately a six-year period and involving an expenditure of \$21,000,000 for schools. New schoolhouse construction work for the year 1926 will aggregate \$5,150,000. Construction work now in progress aggregates \$7,250,000, and program work completed in or previous to 1925 is estimated at \$9,000,000.

MASSACHUSETTS

BOSTON, MASS.—The school committee has maintained a consistent and uninterrupted building program beginning with 1920 and ending with the financial year in December, 1925. In 1920 the school committee was given authority to appropriate seven and one-half million dollars for school building purposes, making two and one-half million dollars available for each of the three years 1920, 1921, and 1922. With new demands for further construction work, the school committee in 1923 asked for power to appropriate three and one-half million dollars for each of the following years. The legislature amended the request and granted an appropriation of three and one-half million dollars for each of two years, namely, 1923-1924, and 1924-1925. Again in 1925 the school committee presented its demands for a five-year building program and for power to appropriate two million dollars for 1925-1926, three million dollars for 1926-1927, four million dollars for 1927-1928, four million dollars for 1928-1929, and four million dollars for 1929-1930. The bill failed of passage and a bill was substituted giving the school committee authority to appropriate three million dollars for one year only, the financial year ending December, 1925. By means of these various legislative acts, a total of seventeen and one-half million dollars became available for the purchase of land and for the construction and furnishing of new school buildings during the six-year period from 1920 to 1925. All of these several amounts were raised

by current taxation. The school board has a building program amounting to \$7,000,000 and has new schoolhouse construction under contract amounting to \$6,000,000.

BROCKTON, MASS.—No building program has as yet been planned for the year 1926. One new school building is about completed. The total amount involved in schoolhouse construction now in progress is \$250,000.

CAMBRIDGE, MASS.—The school board has no definite building program at the present time and no construction work is in progress at this time.

CHELSEA, MASS.—The school board has an appropriation of \$900,000 for the enlargement of the senior high school, which is the only building under construction at this time.

CHICOPEE, MASS.—The school board has not adopted a definite building program up to the present and it is uncertain what construction work will be undertaken for the year 1926. The estimated total amount involved in schoolhouse construction work now in progress is \$130,000.

HAVERHILL, MASS.—The school board has not adopted a building program up to the present time. The estimated total amount involved in schoolhouse construction now in progress is \$350,000.

LAWRENCE, MASS.—No building program has as yet been adopted for the year 1926 but it is planned to expend \$300,000 for new construction work during the year. The total amount of schoolhouse construction now in progress is \$300,000, which is to be completed by September, 1926.

MALDEN, MASS.—The school board completed its present building program in 1925. No new construction work is planned at the present time.

MEDFORD, MASS.—The school board has a building program of \$2,000,000 and plans the erection of an \$800,000 junior high school. The total estimated amount involved in schoolhouse construction work now in progress is \$500,000—\$375,000 for a junior high school and \$125,000 for an elementary school.

NEW BEDFORD, MASS.—The present school building program involves an expenditure of \$1,400,000 for the construction of two junior high schools. Authority has been requested of the legislature to bond for \$1,500,000 more for new buildings to be constructed during the year 1926.

NEWTON, MASS.—The total amount of the present building program is \$1,850,000 and new construction work for 1926 will involve an expenditure of \$400,000. The estimated total amount of schoolhouse construction work now in progress is \$850,000.

SOMERVILLE, MASS.—The city has no schoolhouse construction work under way or any proposed work for the year 1926. A movement has been started for an enlargement of the high school to cost from \$300,000 to \$500,000.

(Continued on Page 98)

Western Electric

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Cass Technical High School,
Detroit, Mich.

Technical High School,
Omaha, Nebr.

(Continued from Page 96)

TAUNTON, MASS.—The total amount involved in the present building program is \$350,000 to \$400,000 to be expended on the erection of a new grammar school, to be started during the present year. A new fifteen-room grammar school has been completed at a cost of \$200,000, and a six-room addition with assembly, at a cost of \$100,000.

WALTHAM, MASS.—The school board plans the erection of a 26 room elementary school during the year 1926 at a cost of \$300,000.

WORCESTER, MASS.—It is expected that the municipal budget of 1926 will include an appropriation of \$600,000 for elementary school construction. An addition to a high school has been started, which is estimated to cost \$1,000,000. The schoolhouse construction previously in progress included an appropriation of \$565,490 for elementary school construction, and another appropriation of \$611,343 for elementary schools. In September, 1924, a junior high school was completed at a cost of \$1,200,000, including equipment.

MICHIGAN

BAY CITY, MICH.—No definite building program has been adopted by the board. An expenditure of \$40,000 is planned for the year 1926.

DETROIT, MICH.—The school board has available \$4,750,776 for the fiscal year 1925-1926. Of this amount, \$1,649,972 covers contracts awarded for buildings now under construction. All buildings provided for in the 1925-1926 budget will be under construction within the next few months. The building program for the year 1926-1927 has not been decided inasmuch as the budget has not been made up and it will be about May first before the board will know the money available for school building purposes.

FLINT, MICH.—No building program has been adopted and no new construction has been decided upon up to the present time.

GRAND RAPIDS, MICH.—Plans have been prepared for an elementary school to cost from \$250,000 to \$300,000, construction work to start early in the spring. It is probable that another elementary school will be erected in the fall of 1926. A new grade school is now in course of construction at a cost of \$930,000.

HAMTRAMCK, MICH.—The building program of the school board has not yet been launched for the year 1926.

HIGHLAND PARK, MICH.—The total amount of the building program which was started in 1924, is \$1,450,000. This program will be completed in 1926. An elementary school costing \$350,000 is in process of erection at the present time.

JACKSON, MICH.—The school board plans the erection of a high school to cost about \$1,240,000.

KALAMAZOO, MICH.—The total amount involved in the present building program is \$435,000. New construction to be started during 1926 will involve an expenditure of \$170,000. The total amount involved

in schoolhouse construction now in progress is \$905,000.

LANSING, MICH.—No building program has as yet been determined. The estimated total amount involved in schoolhouse construction now in progress is \$150,000.

MUSKEGON, MICH.—The total amount of the present building program is \$1,250,000. It is possible that a bond issue will be floated for another elementary school during 1926. The estimated total amount involved in schoolhouse construction now in progress is \$1,250,000. This includes a high school to cost \$900,000, and an elementary school to cost \$350,000, both to be completed in August, 1926.

PONTIAC, MICH.—A school building program involving an expenditure of nearly \$800,000 has just been completed. The school board has made no plans for new schoolhouse construction work in 1926.

SAGINAW (EAST SIDE), MICH.—The school board has adopted a building program involving an expenditure of about \$280,000. No schoolhouse construction work is now in progress.

SAGINAW (WEST SIDE), MICH.—The school board has not adopted a definite building program for the present. There is no schoolhouse construction work under way just now.

MINNESOTA

DULUTH, MINN.—The total amount of the present building program is \$1,597,320. New construction work to be started during 1926 will reach an expenditure of \$850,000, making a total expenditure of \$2,447,320. The total amount involved in schoolhouse construction now in progress is \$1,175,521, making a balance of \$421,799 to be completed.

MINNEAPOLIS, MINN.—The total amount involved in the 1925 school building program is \$1,900,000. The 1926 program has not been completed but it is expected that the total will not exceed \$1,500,000.

ST. PAUL, MINN.—The total amount of the present school building program is \$5,000,000, and new construction work for the year 1926 will reach an expenditure of \$600,000. The estimated total amount of schoolhouse construction now in progress will be \$1,785,000.

MISSOURI

JOPLIN, MO.—A bond issue of \$750,000 was voted in November, 1925, to be used in carrying out the first part of a school building program. The exact number of buildings to be erected during the next year has not been determined but it is expected that the money will be distributed over a three-year period.

KANSAS CITY, MO.—A bond issue of \$5,000,000 was voted in July of this year to carry out a school building program covering a period of two years. It is probable that the money will be largely used for additions to existing buildings, but it is certain that one entirely new elementary school, and two or three units to some half dozen other buildings will be

erected. It is also planned to complete a junior high school and to erect a second unit to a senior high school.

ST. JOSEPH, MO.—The total amount of the present building program is \$300,000, which has been largely used to date. A balance of \$40,000 remains to be used for a new colored school. The estimated total amount of schoolhouse construction now in progress is \$205,000, which is being used for the repair and remodeling of old buildings.

ST. LOUIS, MO.—The school authorities have not resorted to bonding for building purposes for some years and it is not likely that bonding will be necessary for some time. The board has set aside \$2,737,566 in its budget for new construction work. A large part of this money will be expended during the current year 1925-1926.

SPRINGFIELD, MO.—A school building program for the year 1926 has been decided upon but no definite plans have been worked out. It is probable that the board will spend about \$500,000 during the next year or two in remodeling and modernizing the existing school buildings.

NEBRASKA

LINCOLN, NEB.—The total amount of the present building program is \$3,000,000, and new construction work to be started during 1926 will reach an expenditure of \$1,500,000. The total amount involved in schoolhouse work now in progress is \$800,000.

OMAHA, NEB.—The total amount involved in the present building program is about \$1,000,000. The estimated amount of schoolhouse construction work now in progress is \$2,500,000.

NEW HAMPSHIRE

NASHUA, N. H.—The school board has adopted no definite building program and has not determined upon any new construction work up to the present time. During the past year two twelve-room school buildings have been completed and occupied.

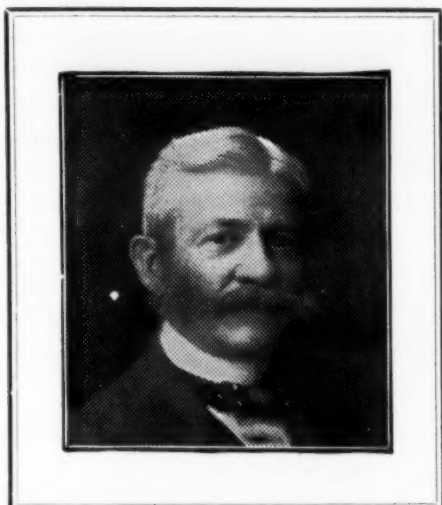
NEW JERSEY

ATLANTIC CITY, N. J.—The total amount involved in the present building program is \$700,000. A contract has been awarded for the erection of an elementary school to be completed by September, 1926. During 1926 changes will be made to a number of existing buildings, the cost to reach about \$200,000.

BAYONNE, N. J.—The school board has not adopted a building program and does not contemplate any new construction work. The total amount involved in schoolhouse construction work now in progress is \$1,429,000.

CAMDEN, N. J.—The school board plans only one new building for the year 1926, this to be erected at a cost of \$200,000. The estimated total amount involved in schoolhouse construction work now in progress is \$250,000.

(Continued on Page 101)



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(Continued from Page 98)

CLIFTON, N. J.—The school board has adopted a building program calling for an expenditure of \$1,029,100 for new buildings and \$40,300 for alterations to buildings. New construction work for the year 1926 will reach an expenditure of \$104,000. The total amount involved in schoolhouse construction work now in progress is \$127,000.

EAST ORANGE, N. J.—The school board has not definitely decided upon a building program but will undoubtedly expend \$600,000 for additions and alterations to present buildings.

HOBOKEN, N. J.—The board has made no effort toward the adoption of a building program or the outlining of new construction work for the year 1926. No construction work is in progress at the present time.

JERSEY CITY, N. J.—The total amount involved in the present building program is about \$6,000,000. New construction work to be started in 1926 will involve the erection of a 64-room school, to cost about \$1,000,000. No construction work will be attempted until 1926.

KEARNY, N. J.—The total amount involved in the present building program has not been determined. The estimated total amount of schoolhouse construction now in progress is \$400,000 for new construction work and \$25,000 for new sites.

NEWARK, N. J.—The school board has adopted an extensive building program for the year 1926, to include the following projects: Addition to Maple Ave. School (elementary), to cost \$165,000; addition to Sumner Ave. School (elementary), to cost \$300,000; school for tubercular children, to cost \$150,000; land for playground purposes, \$77,500; land for school purposes, \$17,500; improvement of playgrounds, \$100,000, making a grand total appropriation for 1926 of \$1,000,000.

The present building program now in process of completion and covering 1925 is as follows: Arlington Ave. ungraded school, to cost \$113,234; East Side high school addition to cost \$299,020; Lincoln school addition, to cost \$148,359; West Side high school building, to cost \$781,798, and a school stadium, to cost \$100,000, making a total of \$1,532,412.

NEW BRUNSWICK, N. J.—The school board has not as yet adopted a building program for the year. The total amount involved in schoolhouse construction now in progress is \$170,000.

ORANGE, N. J.—No building program has as yet been outlined. The board has just completed a new million-dollar high school.

PATERSON, N. J.—The total amount of the building program is \$1,180,000, divided between three elementary schools. The estimated total amount involved in schoolhouse construction now in progress is \$1,616,636, which includes the erection and equipment of a high school.

PERTH AMBOY, N. J.—The total amount involved

in the building program has not been definitely determined. The estimated total amount of schoolhouse construction now in progress is \$127,000.

PLAINFIELD, N. J.—No building program has as yet been determined upon. The estimated total amount involved in schoolhouse construction now in progress is \$300,000.

TRENTON, N. J.—Nothing definite has as yet been decided upon for the year 1926. The estimated total amount involved in schoolhouse construction now in progress is \$1,326,000.

WEST NEW YORK, N. J.—The new building program for 1926 provides for the erection of a high school building, to cost \$715,000. No schoolhouse construction work is now in progress.

NEW YORK

ALBANY, N. Y.—No building program has as yet been decided upon for the year 1926. The total amount involved in schoolhouse construction now in progress is \$1,300,000, which includes the erection of a junior high school.

AUBURN, N. Y.—No building program has as yet been decided upon for 1926. No schoolhouse construction work is now in progress.

BUFFALO, N. Y.—The school building program for 1926 will require an expenditure of \$2,715,000. The total amount involved in schoolhouse construction work now under way is \$6,700,000.

JAMESTOWN, N. Y.—A bond issue of \$550,000 was voted on in December. This will provide funds for two elementary schools. No construction work is now in progress.

KINGSTON, N. Y.—The board has not as yet adopted a building program. No construction work is now in progress.

MT. VERNON, N. Y.—The superintendent's annual report for 1926 recommends an appropriation of \$800,000 for school building purposes. The total amount involved in schoolhouse construction now in progress is approximately \$320,000.

NEWBURGH, N. Y.—During the year 1926 the board expects to erect a new senior high school to cost \$925,000.

NEW YORK, N. Y.—During the year 1924 contracts were awarded and approved for the erection of three high schools, at a cost of \$6,664,875; for 32 elementary schools, at a cost of \$31,518,422; for one special school, at a cost of \$2,313,333; for four temporary schools, at a cost of \$89,757; for eight additions, at a cost of \$3,913,395, and eight playgrounds at a cost of \$106,652, making a total of \$44,606,344.

New buildings completed and occupied during the year comprised five temporary schools, at a cost of \$145,908; additions to eleven schools, at a cost of \$3,717,577; 22 new buildings, at a cost of \$19,332,210; five high schools, at a cost of \$9,934,351, and four playgrounds, at a cost of \$87,088, making a grand total of \$33,217,135.

NIAGARA FALLS, N. Y.—The total amount of the present building program is \$619,000. New construction work for 1926 has not been determined. The estimated total amount involved in schoolhouse construction now in progress is \$625,000.

POUGHKEEPSIE, N. Y.—The board has not decided upon a definite building program. The estimated total amount involved in schoolhouse construction now in progress is \$325,000.

ROCHESTER, N. Y.—The school building department has adopted a building program for 1926, requiring an expenditure of \$3,470,000, and calling for the erection of an elementary school addition, to cost \$75,000; a high school to cost \$1,500,000; elementary school assembly hall, to cost \$100,000; an elementary school, to cost \$325,000; an elementary school to cost \$670,000, and the first section of the northeast high school, to cost \$800,000.

Schoolhouse work under construction at the present time includes the erection of five elementary schools, portables at the Washington junior high school, and a stairway, upon which \$638,908 have been paid, and for which \$466,111 are still due.

ROME, N. Y.—The school board has not decided upon a definite building program. The estimated total amount involved in schoolhouse construction now in progress is \$450,000.

SCHENECTADY, N. Y.—The building program for the year 1925-1926 will require an expenditure of \$350,000. In 1926 a new auditorium will be built for the Oneida intermediate school, at a cost of \$100,000. The estimated total amount involved in schoolhouse construction now in progress is \$250,000.

UTICA, N. Y.—Plans have been made for building a gymnasium and swimming pool for the present high school building in 1926 but the proposition awaits the approval of the board of education. All construction work for 1925 has been completed.

WATERTOWN, N. Y.—The school board has not decided upon a definite building program for 1925-1926. A recent survey of the school plant recommended the adoption of a building program of \$1,500,000.

YONKERS, N. Y.—The school building program involves an expenditure of about \$8,000,000. New construction work will require an expenditure of between \$500,000 and \$600,000, which has already been appropriated in addition to any other part of the program to be begun in 1926. The estimated total amount of schoolhouse construction work now in progress is nearly \$2,000,000. In addition to this, approximately \$2,000,000 will be expended for a senior high school, and a junior high school now practically completed.

NORTH CAROLINA

WINSTON-SALEM, N. C.—The school board has not decided upon a building program. The estimated total amount involved in schoolhouse construction work is \$3,000,000 representing a school building program carried out in the last five or six years.

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OHIO

AKRON, O.—The total amount of the new building program of the school board is \$2,500,000. The estimated amount involved in schoolhouse construction work now in progress is \$550,000.

CANTON, O.—The school building program involving an expenditure of \$1,800,000 is all under contract and construction work started. No new construction work for 1926 is planned at the present time. The estimated total amount of schoolhouse construction work now in progress is \$1,800,000, which involves thirteen different building projects.

CINCINNATI, O.—The total amount of the building program is \$8,500,000, and new construction work for 1926 will involve an expenditure of \$1,750,000. The estimated total amount involved in schoolhouse construction work now in progress is \$850,000.

CLEVELAND, O.—The school building program for 1925-1927 involves an expenditure of \$19,500,000, of which \$15,000,000 are required, and \$4,500,000 will be used in the 1926 construction work. The estimated total amount of schoolhouse construction now in progress is \$1,400,000. The section of the program regarded as emergency and capable of funding in 1925-1926 is \$5,000,000.

COLUMBUS, O.—The total amount of the building program for 1926 is \$1,500,000. The total amount involved in schoolhouse construction now in progress is about \$500,000.

DAYTON, O.—The total amount of the building program is \$3,000,000. The estimated amount involved in schoolhouse construction now in progress is \$1,000,000.

E. CLEVELAND, O.—The total amount of the present building program is \$1,025,000, which includes the erection of a junior high school and a grade school addition. No construction work is at present in progress.

LAKEWOOD, O.—The building program for the year 1926 provides for the erection of an elementary building, to cost \$250,000.

MANSFIELD, O.—No new construction work for the year 1926 is planned. The estimated total amount involved in schoolhouse construction work now in progress is \$800,000.

MARION, O.—No school building program has as yet been adopted. No construction work is now in progress.

SPRINGFIELD, O.—The total amount of the building program is not given but it is announced that the program has been completed for the year 1925.

STUBENVILLE, O.—No building program will be attempted for 1926 as the school board is just completing one for 1925. The total amount involved in schoolhouse construction work now in progress is \$1,000,000. Two junior high schools are in course of completion.

TOLEDO, O.—A school building program begun in 1920 calls for an expenditure of \$11,000,000. New con-

struction work for 1926 calls for an expenditure of \$1,000,000. The total amount involved in schoolhouse construction work now in progress is \$450,000.

WARREN, O.—The school building program of the school board requires an expenditure of \$914,300. The total amount involved in schoolhouse construction work now in progress is \$914,300.

ZANESVILLE, O.—No definite building program has been completed at the present time and no construction work is in progress.

OKLAHOMA

MUSKOGEE, OKLA.—No building program has as yet been adopted and no construction work is in progress at the present time.

OKLAHOMA CITY, OKLA.—The school board has no school buildings under construction at the present time and does not contemplate any new structures. The board has just finished a building program calling for an expenditure of \$1,900,000.

TULSA, OKLA.—The school board will complete a two and one-half million dollar building program within the present school year. At present two junior high schools are in process of erection, and another will be started. Four grade schools and additions to three other schools have been completed.

OREGON

PORTLAND, ORE.—A school building program calling for the erection of five elementary schools and one high school, will be completed at a cost of \$12,000,000. New construction work for 1926 will involve a further expenditure of \$5,000. The total amount involved in schoolhouse construction work now in progress is \$3,000,000.

PENNSYLVANIA

ALLENTOWN, PA.—The school board is carrying out a \$3,000,000 building program covering a five year period. The total amount involved in schoolhouse construction work now in progress is \$1,695,000.

ALTOONA, PA.—The board is completing a building program involving an expenditure of \$1,500,000 and covering a five-year period. Nothing will be started in 1926. It is planned to erect a second junior high school and a grade school at some time in the near future.

BETHLEHEM, PA.—A proposed bond issue for school building purposes was defeated in an election in November last and no construction work will be undertaken for the present.

CHESTER, PA.—No building program has been adopted and no construction work has been contemplated for the present.

ERIE, PA.—The board has a building program requiring an expenditure of \$2,500,000. New construction work for 1926 will involve the erection of additions to two grade schools, to cost \$600,000. The total amount involved in schoolhouse construction now in progress is \$650,000 for a new junior high school, construction upon which began some time ago.

HAZLETON, PA.—The board has contracted for the erection of a high school, to cost about \$600,000. The total amount involved in schoolhouse construction now in progress is \$40,000 for a vocational building.

LANCASTER, PA.—The school board has just completed a building program.

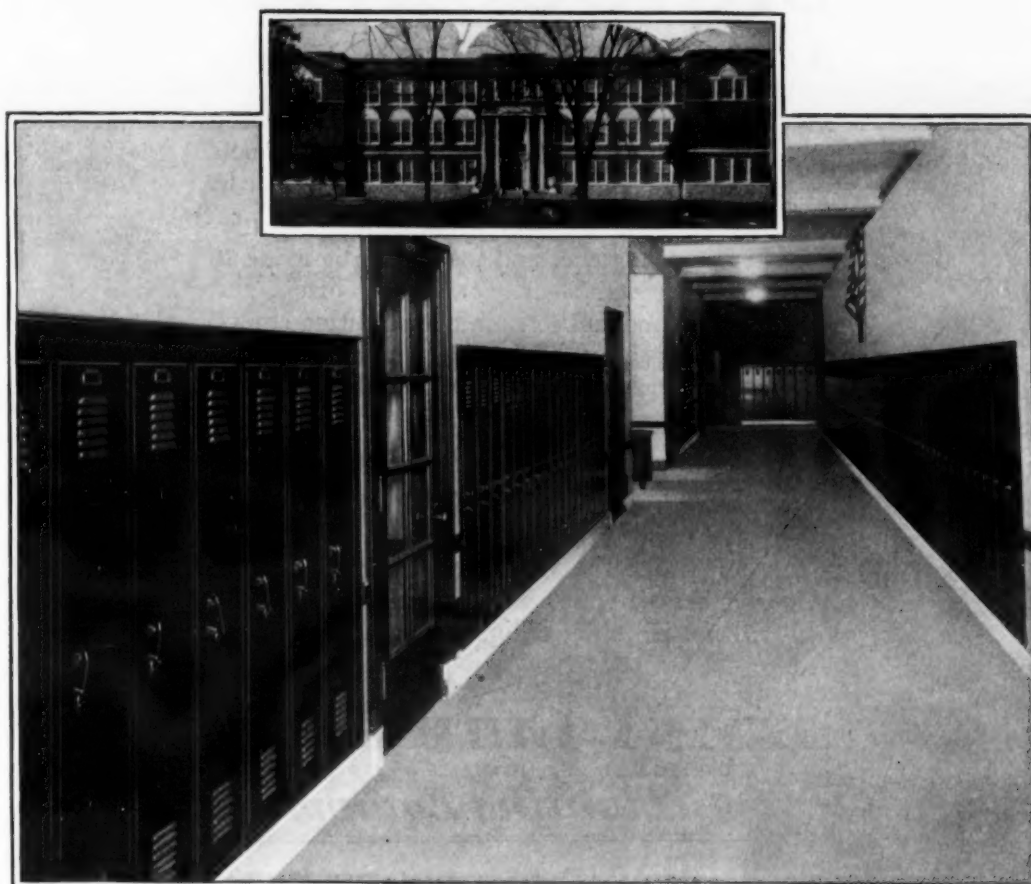
PHILADELPHIA, PA.—The school board contemplates a building program involving an expenditure of \$5,000,000 or more for 1926. The total amount of

(Continued on Page 104)



PUPILS ESCAPE DEATH IN SCHOOL BLAST.

New York—Only by a miracle did fifty pupils escape death in School No. 2, the Bronx, when tons of plaster dropped from the ceiling after an explosion. The picture shows the classroom filled with debris. The children had just retired from the room but the teacher was pinned under the wreckage and was rescued by pupils.



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JR227

(Continued from Page 102)

construction work now in progress will amount to an expenditure of \$8,966,829.

PITTSBURGH, PA.—The school board has a building program of \$5,000,000 and new construction work for 1926 will amount to \$2,000,000. The total amount of schoolhouse construction work now in progress is \$3,000,000.

READING, PA.—The total amount of the building program is \$5,150,000. The amount involved in schoolhouse construction now in progress is \$2,280,000.

WILLIAMSPORT, PA.—The voters recently authorized a bond issue of \$800,000 for a building program to cover a period of five years as follows: An addition to the Lincoln School, at a cost of \$100,000; a junior high school to accommodate 800 pupils, and to cost \$400,000; an addition to the Curtin Junior High School, to be completed in September, 1926; an elementary school, to cost \$150,000 and to be erected before the close of the year 1929.

YORK, PA.—The board has awarded a contract for a senior high school to cost \$700,000. The total amount of schoolhouse construction work now in progress is \$700,000.

RHODE ISLAND

CRANSTON, R. I.—All school building work is under the direction of the city council. The future building program is always in doubt. The total amount of schoolhouse construction now in progress is estimated at \$804,764.

PAWTUCKET, R. I.—The school board is carrying out a four-year school building program. In 1924 a \$500,000 addition was erected for a junior high school building, and in 1925 another addition was built to a junior high school, at a cost of \$500,000. A senior high school, to cost \$1,500,000, is now in course of construction and will be completed in January, 1927.

PROVIDENCE, R. I.—The present construction program calls for an expenditure of \$350,000 and new construction work for the year 1926 will amount to \$1,000,000. Construction work started and in progress aggregates \$1,000,000.

WOONSOCKET, R. I.—A junior high school to cost \$600,000 is planned for the year 1926. The total amount involved in schoolhouse construction now in progress is \$300,000, which is being used for an addition to the high school.

SOUTH DAKOTA

SIOUX FALLS, S. D.—No decision has been reached as yet on the matter of a building program or the amount of new construction work to be attempted in 1926. No construction work is in progress at the present time.

TENNESSEE

NASHVILLE, TENN.—The citizens recently voted on a school bond issue of \$1,000,000. No building program has as yet been adopted. The estimated total amount involved in schoolhouse construction now in progress is \$170,000, which comprises \$40,000 worth of

construction completed, \$55,000 worth nearing completion, and \$75,000 worth awaiting bids from building contractors.

TEXAS

BEAUMONT, TEX.—The school board completed its school building program last year. No new construction work has been planned for 1926.

DALLAS, TEX.—The school board has a building program requiring an expenditure of \$1,000,000 for the year 1926. The estimated total amount involved in schoolhouse construction now in progress is \$1,000,000.

EL PASO, TEX.—The board has just completed a building program covering an expenditure of \$500,000. No new bond issue is planned for the year 1926. During the year 1925 four new buildings were completed and occupied.

SAN ANTONIO, TEX.—The total amount involved in the building program is \$300,000, which will be used for the erection of a junior high school.

WACO, TEX.—The board has not completed its plans for a building program but it is planned to undertake about \$500,000 worth of new schoolhouse construction in 1926.

WICHITA FALLS, TEX.—The school board has adopted a program calling for an expenditure of \$500,000 in present construction work and \$300,000 in work to be contracted for. The total amount involved in schoolhouse construction now in progress is \$200,000.

UTAH

OGDEN, UTAH.—The total amount of the present building program is \$115,000, and new construction work for 1926 will involve an expenditure of \$90,000. The total amount involved in schoolhouse construction work now in progress is \$115,000.

SALT LAKE CITY, UTAH.—New construction work in 1926 will require an expenditure of \$250,000 for enlargement of buildings. The total amount involved in schoolhouse construction now in progress is \$250,000.

VIRGINIA

LYNCHBURG, VA.—No building program has as yet been announced. The total amount involved in schoolhouse construction work now in progress is \$350,000.

NEWPORT NEWS, VA.—No building program has been adopted and no construction work is in progress at the present time.

NORFOLK, VA.—New construction work for 1926 will require an expenditure of about \$180,000. The total amount involved in schoolhouse construction work now in progress is \$91,160.

PETERSBURG, VA.—The school board has a building program calling for an expenditure of \$290,000. No new construction work is planned for 1926. The total amount involved in schoolhouse construction work now in progress is \$290,000, which is being used for a junior high school building, to be completed in October, 1926.

PORTSMOUTH, VA.—The school board has completed plans for the erection of a new building to cost \$80,000, and to be started in September, 1926. A new school building costing \$125,000 was begun in September, 1925.

RICHMOND, VA.—The school board has a building program involving an expenditure of \$2,140,000 and covering a five-year period, but the money has not been provided for carrying out the program. The total amount of schoolhouse construction now in progress is \$1,000,000.

ROANOKE, VA.—No definite building program has as yet been adopted but it is expected that one will be outlined during the year.

WASHINGTON

BELLINGHAM, WASH.—A bond election was held to vote on a bond issue of \$80,000. A millage has been requested to cover this amount. The board is just completing the erection of a new unit to cost \$65,000.

EVERETT, WASH.—The board has not planned any new construction work for 1926. New buildings from the bond issue of \$345,000 have just been completed.

SEATTLE, WASH.—The school board is completing a building program covering 1925 and 1926, involving an expenditure of \$2,250,000, and including the erection of one senior high school, two junior high schools, and two elementary schools. The total amount of schoolhouse construction now in progress is \$750,000.

SPOKANE, WASH.—The school board is just formulating a building program, which is to receive the approval of the citizens in March next. No construction work is at present in progress.

TACOMA, WASH.—No new construction work is planned for the year 1926. The total amount involved in schoolhouse construction work now in progress is \$2,400,000. The program is to be completed in March, 1926.

WEST VIRGINIA

CHARLESTON, W. VA.—The total amount of the present building program is \$1,750,000. No new construction work is planned for 1926. The estimated total amount involved in schoolhouse construction now in progress is \$1,000,000.

WHEELING, W. VA.—No building program has been adopted for the year 1926. The total amount involved in schoolhouse construction now in progress is \$525,000.

WISCONSIN

GREEN BAY, WIS.—The school board adopted a building program in 1922, calling for about \$1,500,000 but no steps have as yet been taken to carry out the program. It is expected that an appropriation of \$400,000 may be provided for a junior high school. No construction work is at present in progress. A high school costing \$700,000 has been completed.

KENOSHA, WIS.—No building program for 1926. A small open air school will be erected at a cost of

(Concluded on Page 106)

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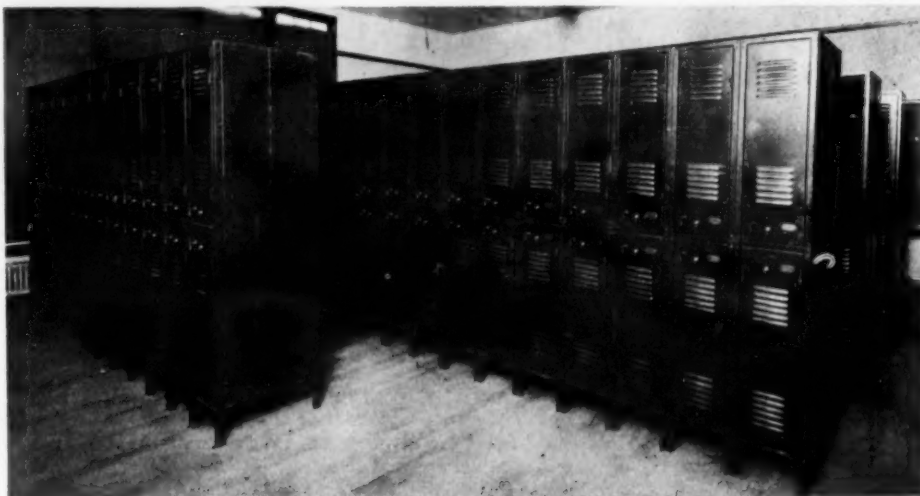
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BERLOY STEEL LOCKERS

(Concluded from Page 104)
\$25,000. The total amount involved in schoolhouse construction now in progress is \$1,500,000.

LA CROSSE, WIS.—No building program adopted for 1926 and no construction work in progress at the present time.

MILWAUKEE, WIS.—The total amount of the present building program is \$8,438,000, and new construction work to be started during 1926 will aggregate \$2,000,000. The estimated total amount involved in schoolhouse construction now in progress is \$1,900,000.

OSHKOSH, WIS.—The school board has adopted no building program for the year 1926. The estimated total amount involved in schoolhouse construction now

in progress is \$330,000.

RACINE, WIS.—A bond issue of \$900,000 for the construction of the initial units of two senior high schools was recently approved by the voters, and construction work will begin early in the spring. Additions to two elementary schools, costing \$220,000, will be completed in 1926.

SHEBOYGAN, WIS.—The school board has adopted no building program for the year 1926. The total amount involved in schoolhouse construction now in progress is \$120,000.

SUPERIOR, WIS.—The school board has adopted no building program for the year 1926. No construction work is in progress at the present time.

of mental tests and standards for the development and standardization of mental tests and standards of mental capacity. It would be under the immediate charge of a director receiving a salary varying from \$4,500 to \$6,000 per annum, who would be a technically trained clinical psychologist and educator. He would be assisted by five competent specialists and a number of clerks.

S. 474 introduced by Mr. Albert B. Cummins, of Iowa, "To create a Negro Industrial Commission," to be composed of five members, at least three of whom shall be members of the Negro race. This Commission would make a study of economic conditions, labor problems, educational problems, and such other problems as may be necessary to assist in the promotion of the general welfare of the Negro in the country.

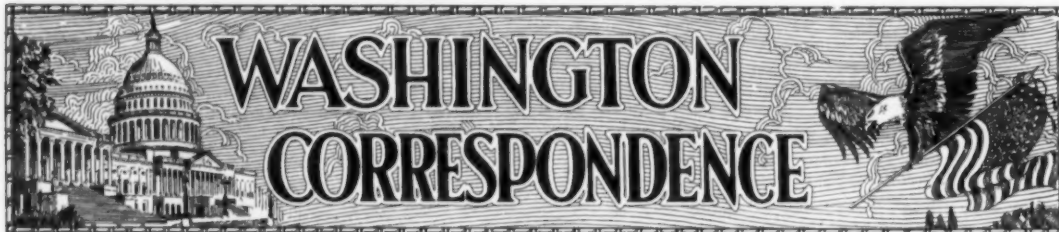
A Senate bill has also been introduced to create in the District of Columbia a National University. This is similar to previous bills for the same object.

CURTIS-REED DEPARTMENT OF EDUCATION BILL

The Curtis Bill, S. 291, mentioned above, has been introduced in the House by Congressman Reed and will be known as the Curtis-Reed Bill. It is the National Education Association measure for a Federal Department of Education and is the successor of the Sterling-Reed Bill, which in turn was the successor of the Smith-Towner Bill. This Bill, with possibly one exception, is identical with a measure discussed in these columns in the May issue.

This proposed Department of Education would be under a Cabinet officer and would be a new Department made up of the present U. S. Bureau of Education, the Federal Board for Vocational Education, the Columbia Institution for the Deaf and Howard University, and such other Government educational, independent offices as might be added from time to time by Congress. The functions, powers and duties of these various offices when consolidated remain practically as at the present time. The Department would be a fact-finding organization, serving in an advisory capacity to the school authorities throughout the country. The Bill carries an appropriation of \$1,500,000 for the fiscal

(Continued on Page 108)



A. C. Monahan, Formerly U. S. Bureau of Education

SIXTY-NINTH CONGRESS AND EDUCATION

With the convening of the Sixty-ninth Congress on December 7th, a number of educational bills were immediately introduced. Below is a list of the most important.

S. 291 introduced by Mr. Charles Curtis, of Kansas, Chairman of the Committee on Education—"To create a Department of Education and for other purposes."

H. R. 266 introduced by Mr. Royal H. Weller, of New York—"To establish a National Conservatory of Music in all of its branches, vocal and instrumental, and for other purposes."

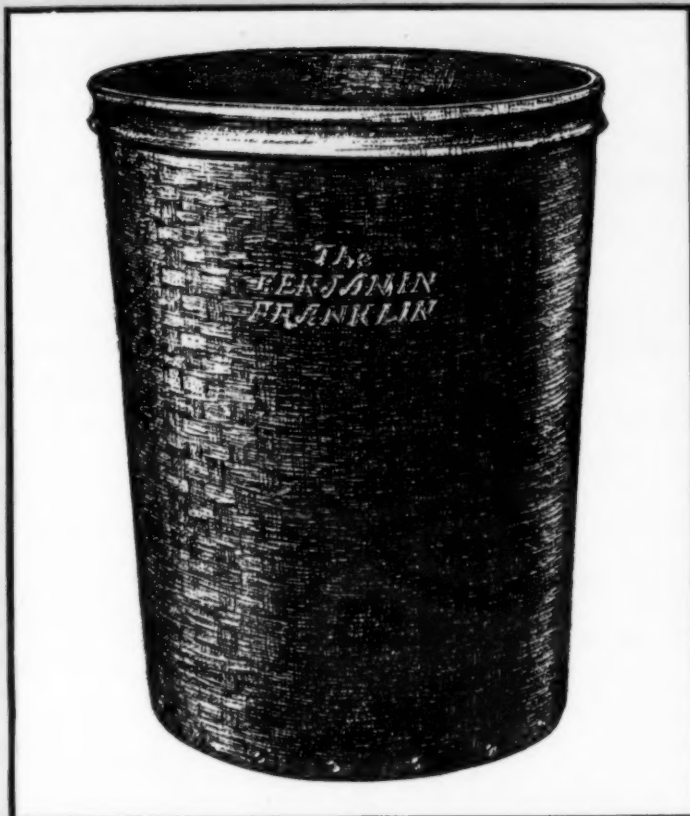
S. 680 introduced by Mr. Kenneth McKellar, regarding "the education and naturalization of aliens and the children of aliens." This Bill would permit no alien to reside in the United States for a period longer than five years without becoming naturalized in accordance with the naturalization statutes now in force. It would require people to be able to speak English for naturalization. It would require aliens, and children of aliens, to be taught in English speak-

ing schools and to be instructed in the English language. It would require every individual or organization employing as many as thirty aliens to provide for them at least two hundred hours' instruction in the English language for the period of one year.

S. 89 introduced by Mr. Wesley L. Jones, of Washington—"To create and establish a national United States Educational Peace Commission to promote peace by means of education." This Commission would act as a clearing house, and as a coordinating, cooperating and crystallizing agency to establish a united national program for world peace.

H. R. 440 introduced by Mr. Roy G. Fitzgerald, of Ohio—"To establish in the U. S. Bureau of Education a 'division for the investigation of mentally handicapped children in the schools.'" The division would collect, interpret, and publish the results of tests used for mental and educational classification, and information on the organization and conduct of the work undertaken in schools for mentally deficient children. The division would conduct a laboratory

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(Continued from Page 106)

year, all of which would be used in the support of the work of the central office. It carries no appropriation to subsidize the various states as was provided in the Sterling-Reed Bill.

In order to coordinate educational activities carried on, several Federal Executive Departments, it creates a Federal Conference on Education to be composed of one representative and one alternate from each Department. This body would not report to any one Department, but each representative would report on the activities of the group to his own Department for consideration and independent action.

The Curtis-Reed bill differs in one important respect from the proposed measure agreed upon by various educational organizations in the spring of 1925. This is in regard to the Federal Board for Vocational Education. The proposed measure agreed upon abolished the Federal Board and transferred its functions to the new Department. This measure transfers the Federal Board to the Department with all of its authority, powers and duties to be exercised and performed by the Board as a division of the Department.

Appropriations for Federal Education Offices and for the District of Columbia

At the opening of Congress, President Coolidge submitted approved estimates calling for an appropriation of nearly \$4,000,000,000 for the conduct of the Government during the fiscal year beginning July 1, 1926. In this is included the conduct of the District of Columbia.

For its schools for the year an amount equivalent to that of the present year is provided for the annual maintenance and conduct. Provision for increased enrollment is not made. The amount provided to carry out the five-year building program passed by the 68th Congress is entirely inadequate. The program requires a total of nearly \$20,000,000, or approximately \$4,000,000 a year. For the present year \$4,176,500 is available. The request for \$4,000,000 for the coming year was slashed by the Budget Bureau to \$2,672,500 on the grounds that the Budget Bureau feels that the school board has as much construction work under way as it can reasonably supervise.

For the Federal Bureau of Education the total amount recommended by the Budget Bureau and

approved by the President is \$746,000, of which \$221,600 is for the Bureau in Washington and \$524,400 for the schools for natives in Alaska conducted by the Bureau. This is an increase of approximately \$50,000 for the Alaska work over the appropriation for the present year, and a decrease of approximately \$1,000 for the Washington Office.

For the Federal Board for Vocational Education the approved amount is that required in the organizing act. This is approximately \$7,385,000 of which \$200,000 is for the Washington Office, \$7,000,000 for distribution to the States on the basis of population, and the rest for allotment to the states as special allotments to guarantee minimum.

The appropriations for the Federal Board for Vocational Education in establishing the Smith-Hughes Act provided for an annual increase from the year of its establishment for ten years. This limit is reached in the appropriations for the next fiscal year. The amount approved for the year is, therefore, the annual amount to be provided in the future unless changed by Congressional action.

PRIVATE SCHOOL STANDARDS FOR THE DISTRICT OF COLUMBIA

The District of Columbia board of education has recently adopted standards for parochial and private schools in the District in order that they may comply with the provisions of the compulsory school attendance law enacted by Congress during its past session for the District of Columbia.

This law provides for compulsory school attendance, for the taking of a school census in the District of Columbia, and for other purposes. Section 1 provides that "every parent, guardian, or other person residing permanently or temporarily in the District of Columbia, who has custody or control of a child between the ages of 7 and 16 years, shall cause said child to be regularly instructed in a public school or in a private or parochial school or instructed privately during the period of each year in which the public schools of the District of Columbia are in session: Provided, that instruction given in such private or parochial school,

or privately, is deemed equivalent by the board of education to the instruction given in the public schools."

This is the authority of the board of education for the standards for private schools which it has adopted. The action of the board is as follows:

"The Board of Education in compliance with the provisions of Section 1 of the Act of Congress approved February 4, 1925, and entitled 'an Act to provide for compulsory school attendance, for the taking of a school census in the District of Columbia, and for other purposes' and for the purposes of the above entitled Act only, formulates the following minimum equivalences by which the Superintendent of Schools and those acting under his authority may be guided in the initiation of prosecutions under the provisions of said Act.

I. Parochial and Private Schools—Amount of Instruction

In compliance with the provisions of this Act the amount of instruction received by a pupil in a private or parochial school during any day, and in the five days of the week, and during the whole school year, shall be at least equal to the amount of instruction offered in the public day schools for the corresponding age or grade of the pupil.

II. Parochial and Private Schools—Character of Instruction

In compliance with the provisions of this Act the character of the instruction offered in private schools or parochial schools, including the subjects taught and time allotments thereof, must be substantially the same as that offered in the public day schools for the corresponding grade or age of pupil.

Subjects or school activities pursued in a private school or parochial school which are not offered in the public day schools, shall be properly credited as equivalent of other subjects taught in the public day schools.

III. Parochial and Private Schools—Quality of Instruction

In compliance with the provisions of this Act the quality of the instruction offered in private schools or parochial schools shall be determined by the educational qualifications of the teachers; which shall be not less than those required of teachers in the public schools.

In considering the quality of instruction given in a private school or parochial school, due consideration shall be given the size of classes and the general conditions under which such instruction is carried on.

IV. Private Instruction

A child shall be deemed legally in attendance at school within the meaning of this Act if he or she is receiving private instruction which coincides in duration with the annual period during which the public schools are open for pupils of like age, and provided that the number of hours of instruction or supervised study per week, under a private teacher or teachers deemed competent by the Superintendent of Schools

(Concluded on Page 111)

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School Board Journal, Jan., 1926

(Concluded from Page 108)

shall be not less than the minimum for children of like age in the public schools. Provided further, however, that in case of private tutorship of a single child or small group of children, the advantage in individual instruction may be taken into consideration by the Superintendent of schools as justifying a decrease in the whole number of hours of instruction and provided further, that in the case of any boy or girl in lawful employment, the Superintendent of Schools may also take into consideration in estimating the above minimum equivalences for the purpose of this Act, the character and surroundings of the occupation in question so far as those may bear upon the educational value if any thereof."

This Act of Congress for the District of Columbia for the fulfillment of compulsory education requirements is similar to state legislation in a large number of states where, for compulsory education purposes, the courses of study and methods of instruction in private and parochial schools must have the approval of either state or local authorities. In Maine, for instance, it is the state superintendent of public schools. In Massachusetts, where the law has been in effect for many years, the school must be approved by the local school committee. The following states are listed as states with somewhat similar provisions relative to private schools, intended to meet compulsory education requirements—Alabama, Connecticut, Florida, Illinois, Indiana, Kansas, Kentucky, Maine, Massachusetts, Michigan, Nebraska, Nevada, New Hampshire, New Mexico, New York, North Dakota, Pennsylvania, Rhode Island, South Carolina, South Dakota, Washington, West Virginia, and Wisconsin.

NATIONAL COMMISSION ON SCHOOL ADMINISTRATION

Dr. Frank W. Ballou, President of the Department of Superintendence of the National Education Association, has announced the personnel to comprise the National Commission on School Administration announced in these columns last month.

In addition to Dr. Ballou, who will be a member of the Committee, are John J. Tigert, United States Commissioner of Education and Thomas E. Finegan, both appointed by Secretary of the Interior; Prof. George D. Strayer, of Teachers College, Columbia University; John H. Beveridge, City Superintendent of Omaha, Nebraska, appointed by the Department of Superintend-

ence, National Education Association; Mr. Ernest Greenwood, a Member of the School Board of Washington, D. C., and Secretary of the National Conference on Highway Safety, and Elliott H. Goodwin, of Washington, D. C., Resident Vice-President of the United States Chamber of Commerce.

The first meeting of the Committee for organization and definition of its program was held in Washington at the United States Chamber of Commerce on December 19th. Dr. Ballou was made Chairman.

UNITED STATES BUREAU OF EDUCATION AND SCHOOL BUILDINGS

The United States Bureau of Education is collecting a large number of photographs and architects' plans of school buildings of all types as a permanent exhibit, and for consultation by school authorities and architects charged with the erection of school buildings. These will be used as an exhibit the first time in connection with the meeting of the Department of Superintendence in February, 1926. They will be displayed in the large lobby on the ground floor of the Department of the Interior building in which the Bureau of Education is located. This building is adjacent to the Washington Auditorium where the Department meetings will be held and is, therefore, conveniently located for visitors.

This collection is being made with the cooperation of the chief State school officers and also with the cooperation of some of the leading architects in school building. Already on hand are floor plans and photographs of all types of buildings from the one-teacher country schools to some of the largest and finest city high schools, included also are the plans and photographs of city and state normal schools and colleges. This promises to be one of the most interesting exhibits in connection with the annual meeting of the Department Superintendence.

New Specialist in Bureau of Education

The United States Bureau of Education has announced the appointment of Dr. Arthur J. Klein of the District of Columbia as specialist in higher education. Dr. Klein will be in charge

of the Division of Higher Education, which collects and disseminates information regarding universities, colleges, and professional schools. He will furnish advice to officers in charge of these institutions and will undertake institutional surveys.

Dr. Klein holds a degree given by Columbia University and has served as instructor and head of a department in two colleges. He has more recently acted as associate director of the Division of Educational Extension in the Bureau of Education, and as assistant chief and executive of the research and development service of the Army Educational Service.

NEWS OF SCHOOL OFFICIALS

—William V. Williamson, treasurer of the board of education at Peoria, Ill., died suddenly on November 26th. Mr. Williamson had been a member of the Board for twenty years, and had been treasurer since 1908.

—Mr. Erdis G. Robinson is the new member of the school board at Columbus, O., succeeding Warner Simpson.

—William G. Stewart, president of the Webster Parish school board at Minden, La., died on November 5th, after an illness of one week.

—C. E. Eklund, president of the board of education at Chanute, Kans., resigned on November 3rd, and was succeeded by W. H. Mallory.

—At the November election held at Kent, O., F. W. Bowers, I. R. Marsh and D. B. Wolcott, retiring members, were reelected with practically no opposition. Mr. Wolcott and Mr. Marsh are completing their second four-year terms, and with Mr. Bowers will enter on another four-year term on January first. The athletic field at the Roosevelt high school was recently named Bowers Field, in honor of Mr. Bowers and his long service to the schools.

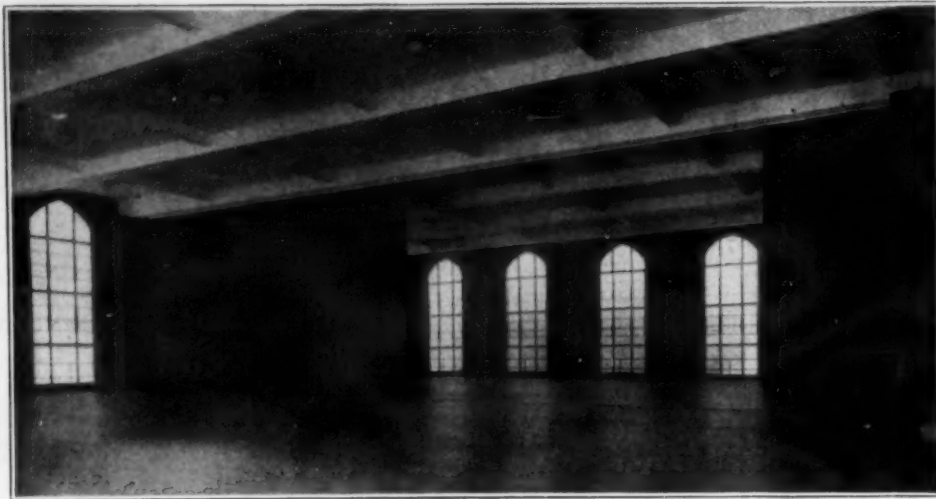
—Mr. Marcus Aaron has been reelected president of the board of education at Pittsburgh, Pa. Mr. N. R. Criss has been elected vice-president, and Mr. George W. Gerwig secretary.

—Mrs. Ada Fish, Mrs. Emma S. Olds, and L. S. Hill were reelected members of the Erie county board of education, Ohio.

—The board of education of Lima, Ohio, dropped Ralph W. Austin, a member, from that body because he failed to attend the board meetings since last June, and gave no excuse for his absence.

—Dr. I. W. Hendrickson is the new member of the Chambersburg, Pa., school board.

—Mrs. J. B. Hughes of Oroville is the new president of the northern section of the California State Teachers' Association. Mrs. Minnie M. Gray, county superintendent of Yuba County was reelected secretary and J. D. Sweeney of Red Bluff as treasurer. The latter enters upon his twenty-fifth year of service as treasurer.



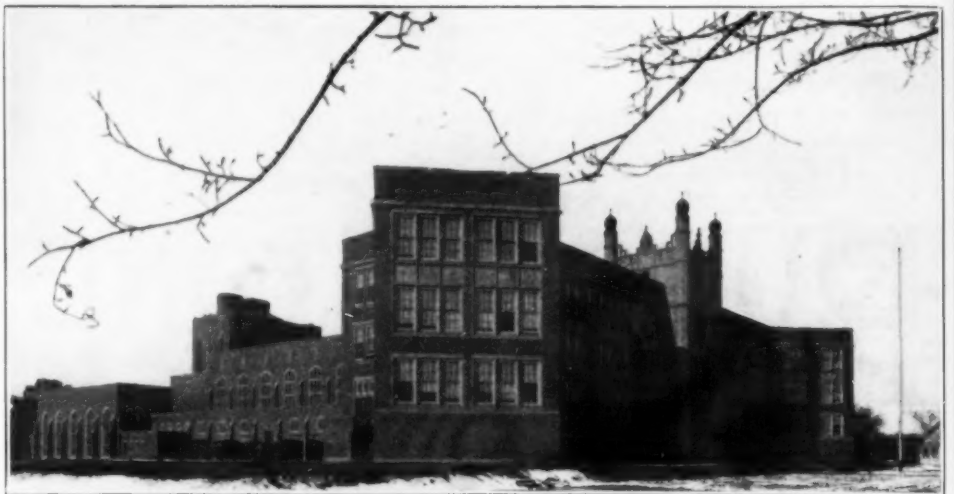
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SCHOOL FINANCE AND TAXATION

NEW YORK'S HUGE SCHOOL FINANCES

The board of education of New York City has issued a report on its finances for 1924 which constitutes a large volume of several hundred pages. The figures become interesting because of their tremendous volume and the manner of their distribution. Over two hundred million dollars is expended annually.

Under the heading of "resources" or income, the following figures are enumerated:

Bond issues for buildings and equipment as provided by law.....	\$108,902,215.88
General school fund raised by taxation.....	83,375,155.62
Special school fund available for physical requirements of school plant and administration.....	21,339,799.89
Special and trust funds, state support and proceeds from sale of school lunches.....	514,935.21

\$214,132,106.60

The disbursements are distributed under the several headings as follows:

Capital outlay (property accounts).....	\$ 59,542,889.42
Physical maintenance of school plant....	5,173,962.42
Operation of school plant.....	5,054,808.12
Cost of instruction.....	82,580,396.11
Administration.....	2,454,468.38
Auxiliary agencies.....	56,944,952.64

Balance.....\$214,132,106.60

It will be noted that the unexpended amount of \$56,944,952.64 represents money belonging to the building fund. The per capita cost for elementary school pupils is \$81.91, for high schools \$143.49, vocational and trade schools, \$167.07.

There were maintained 21,126 classrooms and 934,717 sittings. The average daily attendance was 900,078, or as large as that of Chicago, Philadelphia, Detroit, Cleveland, and Los Angeles combined.

NEW YORK STATE SCHOOL FINANCE PROBLEM

It is contemplated to subject the school finance laws of New York state to legislative revision. A number of cities have been obliged to resort to heavy borrowing and special revenue bonds to maintain the schools, while the defects of the

state support are manifest in the rural districts.

In order to meet the situation, Governor Smith has appointed a commission whose duty it will be to make a thorough study of the school finances of the state and report the remedy to the legislature. A preliminary conference held with the governor has emphasized the fact that the situation calls for early action.

"The need for such a study and for the formulation of the necessary legislation to put into effect the conclusions reached was brought out clearly by those who spoke at the conference," says the Public and the Schools. "While state aid to localities has increased over four-fold since 1918, it was pointed out that the financial situation in many of the cities and districts of the state is extremely acute. This is particularly true in Rochester, where the schools have been financed, with constantly increasing sums from year to year, by special revenue bonds. In the last five years the funds borrowed to run the schools in that city have reached the astounding total of over \$9,500,000. Buffalo, too, has been compelled to finance a deficit of some \$800,000 in a similar way."

In order to appreciate the magnitude of the task, it should be remembered that it will have to concern itself with the question of both state and local taxation. "Should there be a separate tax for school purposes, or should the school system be guaranteed a certain proportion or share of the general revenues?" asks the above named publication. "If so, what should be the rates established, and to what extent should boards of education be guaranteed independence in the administration of their funds?"

"Should there, on the contrary, be an effort to curtail or limit the expansion of school activities to meet the crisis in whole or in part, and, if so, along what lines should retrenchment be made? On this point the Governor expressed forcibly the opinion that the people are not opposed to spending dollars on education when full value is received. They object only to providing dollars that are wasted or improperly expended.

"Another question is whether the localities themselves are meeting adequately their own responsibilities. Is property assessed at its full value in conformity with the law, or does laxity prevail for political purposes. The State Tax Commissioner maintained at the conference that

both Rochester and Buffalo, for example, could raise \$100 where they now raise \$75 if they fully obeyed the law of assessment. If this practice should prove to be prevalent, it presents another factor which the commission must consider in formulating its program.

NEW YORK SCHOOL FINANCE COMMISSION

The school finance commission appointed by Governor Smith of New York has held its first meeting and agreed to divide its labors into four problems: Legislation to insure that all state funds for public education will be applied to insure amounts of money available for schools and not to reduce appropriations by the various communities; legislation to insure financial independence for boards of education; a study of new sources of revenue to provide the increased funds to be distributed by the state.

The members of the commission are Col. Michael Friedsam, Senators Ernest E. Cole and Bernard Downing, Assemblyman Maurice Bloch, Frank P. Graves, State Commissioner of Education; Regents James Byrne and William J. Wallin; E. W. Edwards, Chairman of the Committee on Education of the State Federation of Labor; Felix M. Warburg, Mrs. William F. Felton, President of the Board of Education, Buffalo; Robert E. Smith, President United Parents' Association of Greater New York Schools; Dr. William L. Ettinger, former Superintendent of Schools; Dr. George J. Ryan, President of the Board of Education; Dr. Herbert S. Weet, Superintendent of Schools, Rochester; Mrs. Samuel W. Bens, Utica; Lewis L. Delafeld, jr., Miss Olive M. Jones, Mrs. Edmund N. Huyck, Albany; Supreme Court Justice Thomas W. Churchill, Mrs. H. Adelbert Hamilton, Elmira; Grover Cleveland Morehart, Syracuse University; Miss Martha L. Draper, Mrs. Seymour Barnard, Mrs. Joseph Swan and Dr. Paul Klapper, College of the City of New York.

—The Chicago board of education has approved a \$21,000,000 school building program. This contemplates 24 elementary and five junior high schools.

—Lubbock, Texas, voted a school bond issue of \$170,000. Snyder, Texas, voted \$75,000 school bonds; Elsberry, Mo., \$4,500; Big Sandy, near San Antonio, Texas, \$3,500.

(Continued on Page 114)

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Wooster Treads as used on worn wood stairs in the City College of New York.

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back; 3 in. with nosing and square back; $2\frac{1}{2}$, 4 and 6 in. without nosing. Brass or white brass base, the latter lead-surfaced only:—3 in. wide with long nosing; 3 in. with lip nosing; 3, 4 and 6 inch without nosing. Treads come in any length up to 17 feet.

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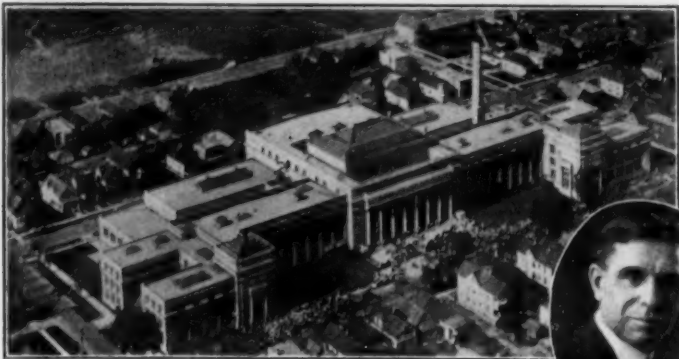
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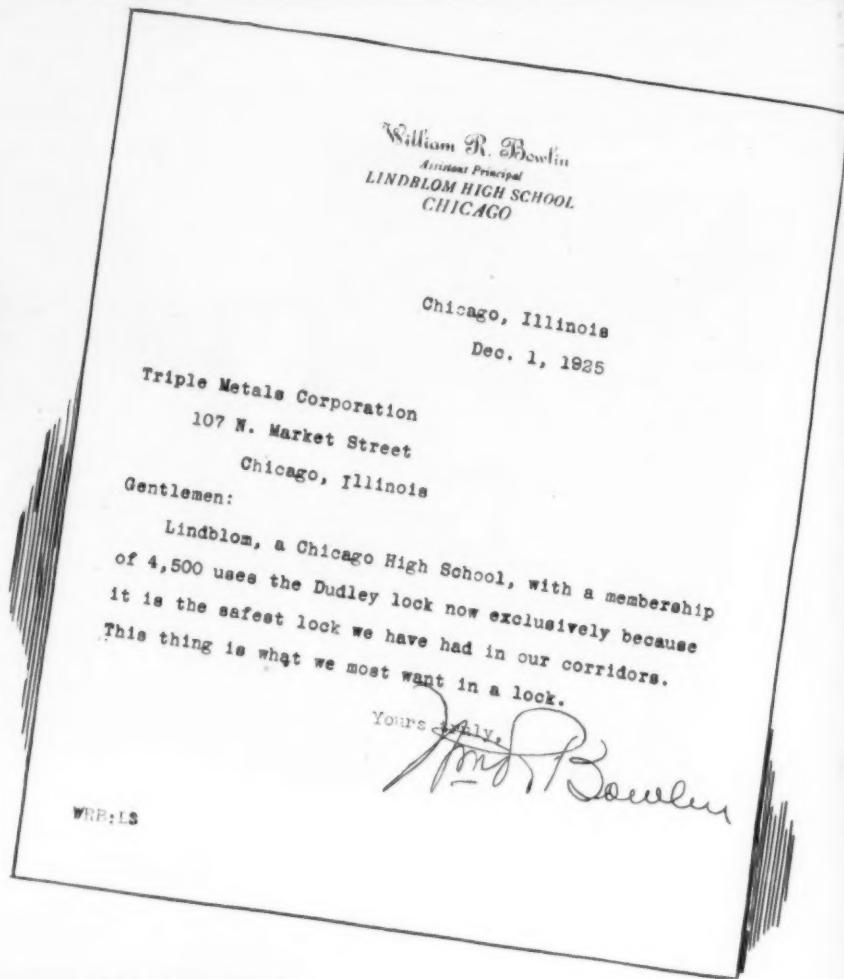
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WRB:LS

(Continued from Page 112)

—The Birmingham, Alabama, board of education has asked the city commission for \$937,000 to be used in carrying out its building program.

"If education cost nothing in money there would be no political interest in the subject—either of education or what it cost. If public education were free as the air, the holders and seekers of political offices would not concern themselves in the remotest degree about it," said Dr. Samuel Quigley, president of the Western College, Gunnison, Colorado, in a public address recently. "But education costs the public something. Therefore the outlay must have political sanction. Then, when apparently hard times come because of the discrepancies in our economic system and the foolishness of the taxing system itself, the political candidate for the local school board comes to the rescue of the taxpayer by pointing out not merely the costliness of the school, but the extravagance in management."

—The Gary, Indiana, school budget for 1925-26 has been worked out for capital outlay, maintenance and operating expenses. The pupil hour has been used as the divisor in determining the per pupil cost. The 1,000 pupil hours are used as a unit. The average daily attendance is 8,566. The total expenditures amount to \$2,009,871. The budgets constitute two large columns, and the items are worked out to the last detail. It is a marvel in completeness and fixes both the initiative and the responsibility of expenditures.

—The board of education of San Bernardino, California, asked the citizens to ratify a bond issue for \$785,000. In doing so, the board enumerated the various expenditures that had been planned in the way of new buildings and additions. A list of the voting booths was given. The board consists of George Seager, president; John Anderson, George Holbrook, R. B. Peters, A. L. Sloan, Frank Cram, and J. C. Boyd. C. R. Holbrook is the superintendent of schools. The bond issue was passed by a vote of seven to one.

—Salt Lake, Utah. More than \$151,000 in excess of revenues was spent by the board of education during the last year, according to an audit report. The total expenditures were \$2,470,066, and the largest expenditure was for

general operating expenditures, amounting to \$2,045,035. The per capita cost of operating the schools was \$84.23.

—Colorado Springs, Colo. A budget calling for an assessment of \$667,084, with a mill levy of 14.5 in School District No. 11 and a levy of 15.25 for District No. 1 has been adopted by the school board. While the mill levy has been slightly reduced, the amount to be raised from taxation will be about \$26,000 more than from the same source for 1925.

—Barrington, R. I. The per capita cost of education was practically doubled in the last fourteen years according to a report of the school board. In the same period, the increase in the number of pupils receiving instruction has more than kept pace with the rising cost of education.

—Auburn, Me. The school board has adopted a budget of \$216,997 for 1926, as compared with \$205,000 in 1925.

—The New York City schools will not receive the benefit of the increased funds allowed the schools in 1926 for public education. Beginning July first, the state quota on teachers' salaries will be increased \$50, and this will increase by \$750,000 the state appropriation to city schools.

The board of estimate has, however, offset this allowance by making a reduction of \$1,000,000 in the general school fund from which the salaries of teachers are paid. The reduction was effected by increasing the board's estimate of the deduction to be made for accruals—the savings due to the replacement of high salaried teachers, at the minimum salary. The net result of the budget making procedure has been to utilize increased state aid to schools to release funds for other city purposes.

—Supt. Edward W. Stitt of New York City, in a recent address, pointed out that the city's rapid growth has contributed to its mounting school cost. Another reason advanced for the increased cost by Supt. Stitt was the change in plan and scope of education with the passing years. He pointed to the increase in the number of teachers and schools and cited the development of high schools, kindergartens, vocational training, and evening schools.

—Oklahoma City, Okla. Slashes in city, county and city school district budgets of approximately \$25,000 have been ordered by the

state board of equalization. Oklahoma City will cut off nearly \$6,000, the county nearly \$7,000, and the school board approximately \$12,000.

—Marion, O. The school board has asked the voters to approve the extension of a three-mill levy for a five-year period.

—Chicago, Ill. The school board has begun foreclosure proceedings in the court against some \$12,000,000 unpaid taxes on real estate forfeited to the state in the last fifty years or more. It is regarded as one of the most important steps ever taken to reduce the tax burden of the ordinary home owner and to raise funds to meet the increased expenses of the schools and other branches of the municipal government.

—Joliet, Ill. The school board has been obliged to borrow \$75,000 on tax anticipation warrants in order to pay salaries and operating expenses until the 1925 taxes are received.

—Racine, Wis. The city council has approved the school board's budget calling for an expenditure of \$885,719. To this cost will be added \$99,000 for the continuation school which is also taken from the money collected in taxes.

—The state education department of Texas is holding more than \$500,000 which should be in the school depositories for the purpose of paying teachers' salaries, because of failure of counties, independent districts and depositories to file bonds and otherwise comply with the requirements, according to Supt. S. M. N. Marrs. It is brought out that ten counties and 460 districts had failed to file depository bonds as required.

—Newcastle, Ind. A reduction of six cents has been made in the school board tax, bringing the levy from \$1.10 to \$1.04.

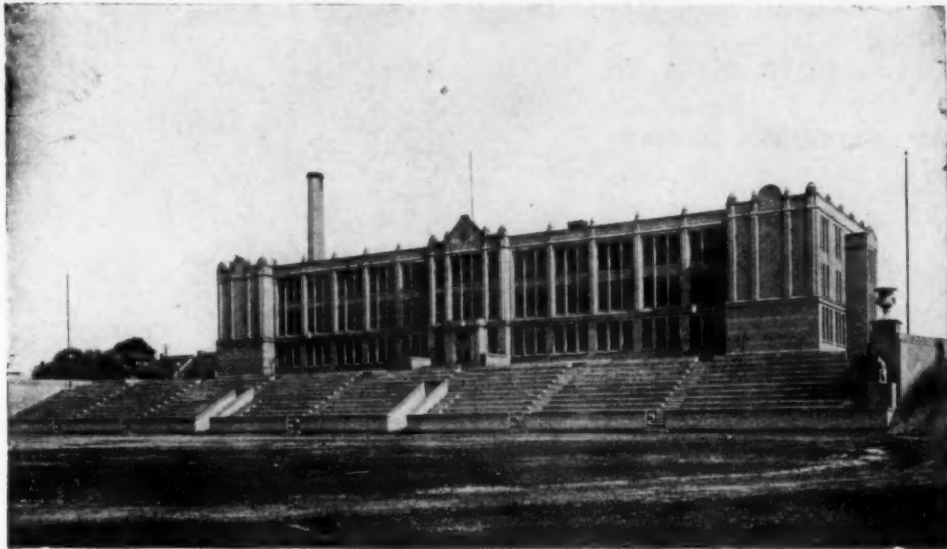
—Oshkosh, Wis. The budget of the public schools for 1926 calls for an expenditure of \$454,743, or an increase of \$13,638 over the budget for the present year. The largest increase is in the high school with an appropriation of \$142,064, and the next largest comes in the grade schools, with an increase of \$2,500 over 1925.

—Waterbury, Conn. It will cost over \$2,000,000 to operate the schools for the year 1926, or an increase of \$150,000 more than was allowed the present year.

(Concluded on Page 116)

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Canton,
Ohio.

One of fifteen
installations
in this city.

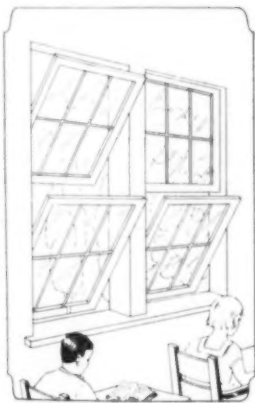


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Weightless Windows

School room ventilation is one of the major problems in schoolhouse construction. And the type of window equipment installed practically determines the success or failure of any given method or system of ventilation.

For this reason, the matter of efficient and properly designed window equipment is being given closer attention than formerly. Architects and School Officials realize that the demands of a school building window are far more exacting than any other, and that their efficient operation is primarily essential to the health and well-being of the pupils.

The "Williams" Plank Frame Reversible Window Fixture is especially adapted for schoolhouse construction. It meets every school requirement—provides ideal draftless overhead ventilation, is neat in appearance, easily operated, reversible for cleaning, and conservative in cost.

And the "Williams" device is also correct in every other essential, containing advantages in design and construction found in no other window equipment. Their installation actually assures more perfect control of ventilation and in addition affords greatly increased shading facilities, as the shades can be drawn to any desired position without interfering in any way with the free circulation of fresh air.

Our policy of fitting and installing the sash and applying our fixtures, insures proper operation of the equipment. Following this policy for almost twenty years has resulted in many cities equipping all of their schools with "Williams" equipment exclusively.

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WINDOWS
EASILY CLEANED

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"Williams" Reversible Window Fixtures

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Ask for the complete catalog.

The Hamilton Mfg. Co.
Two Rivers, Wis.

(Concluded from Page 114)

—Denver, Colo. The school tax levy for the coming year will be 12.5654 mills on each dollar of assessed valuation, or an increase of .5854 of a mill over the levy for the current year. The budget aggregates \$5,628,590, or an increase of \$384,648 over the budget for this year.

—Oklahoma City, Okla. The school tax rate has been set at 17.87 mills.

—At the November election held at Kent, O., an overwhelming vote was registered in favor of a three-mill levy for a period of five years, and to exempt \$200,000 worth of bonds from limitations of the Smith one per cent tax law, allowing the board a maximum of one and one-half mills more for the life of the bonds.

—The state school moneys distributed by the state of Missouri to the various schools of the commonwealth in 1925 are nearly a million dollars short of the amount distributed in 1924. This represents in round numbers an amount of money equivalent to the amount which would be produced by a two-cent tax on all the assessed property of the state. This is exactly the reduction in state taxes made by the general assembly in 1923.

THE PLACING OF SCHOOL INSURANCE

The school district of St. Joseph, Missouri, has adopted an interesting method of distributing the fire insurance on the school buildings owned by the district. The plan was devised by Mr. A. L. Loving, secretary and business manager of the board of education, and involves the active cooperation on the part of the local organization of fire insurance agents.

When the plan was first inaugurated, the local underwriters' association was asked to agree among its members as to the size, writing power, and other qualifications of local agents who handle the fire insurance business of the schools. The recommendations of the association which were worked out by a special committee headed by Mr. T. W. Brown, a leading insurance man, were presented to the board of education and the business was placed by the secretary of the board in accordance with these recommendations.

There are in the city of St. Joseph 32 agents who are eligible for school board insurance.

This group is added to whenever a new agency is established, provided the new agency has been in business twelve months.

The agents are placed in three groups. Group number one is comprised of seven of the largest agencies and writes 35% of the entire insurance of the school system; group number two comprises ten agencies and writes 33%; and group number three is made up of fifteen small agencies and writes 32% of the business. The list of the agencies is filed annually with the secretary of the board of education, and checks for the policies are made payable to each individual agency.

When the system was first inaugurated, all complaints were referred to the Association and were handled by the committee head, Mr. Brown. The plan has worked to the complete satisfaction of both the board of education and of the insurance people.

THE JOHNSTOWN SCHOOL BOND ISSUE

The school district of Johnstown, Pa., recently carried a successful bond issue for \$1,250,000. The school board took the proposition before the electorate with the slogan, "If the people know, they will rally to the support of the schools." The proposition resolved itself into the completing of a building program then under way, and the election was to decide the question of how payment was to be made—by direct taxation or by a bond issue spread out over a term of years.

At the outset there was considerable opposition on the part of a strong-minded group of economists who opposed bond issues on general principles. These "single-taxers" were good debaters and used strong arguments to carry their points.

The campaign was organized with a special committee, headed by Mr. G. B. Murdoch as chairman, and Mr. James Killius, as director of publicity. The committee gathered all the campaign material for its use and put its forces to work. The summary of activities given below indicates what may be done in similar campaigns by other school systems.

The work was begun with a mass meeting of all the teachers and the organization of a citizens' committee of three hundred. Another feature was the preparation of daily memorandum to an eight hundred mailing list, outlining

systematically the argument for the bond issue. Original bond issue songs were prepared, as well as slogans, rhymes, with contests in all the schools. Carefully prepared daily paid newspaper advertising was inserted in the two opposing papers, elimination contests were staged in the schools for the best four-minute speeches on the bond issue, and slides were shown between the pictures in all motion-picture theaters. Pictures and feature articles descriptive of all undesirable school situations were shown and community meetings and entertainments were given by the schools, with addresses by the board members and leading citizens. In connection with the Halloween celebration there was a display float depicting "the old woman who lived in a shoe," and just preceding election day a monster parade for school children was given.

Other features of the campaign were billboard poster advertising, automobile banners, handbills and dodgers, and speeches in the several churches by school children on the Sunday previous to election day.

The bond issue will provide funds for the carrying out of a new building program including a junior high school and four grade schools. Few cities of the size of Johnstown can boast of a new senior high school, two junior high schools and nine grade schools all erected within the last decade. Such will be the good fortune of Johnstown.

ASSOCIATION ELECTIONS

—A. O. Gullidge of Baker, has been elected president of the Montana Teachers' Association.

—W. E. McGuire of Tacoma, has been elected president of the Thurston County unit of the Washington Education Association.

—E. S. Suenkel of Buena, has been elected president of the Yakima County Teachers' Association, Washington.

—A. J. Burton, principal of the East high school of Des Moines, is the new president of the Iowa State Teachers' Association. W. H. Hoyman of Toledo, Iowa, was elected member of the executive committee and Clay D. Slinker of Des Moines was renamed secretary-treasurer.

—Owen D. Speer was chosen president of the western division of the Montana Teachers' Association. Dr. F. H. Carver, president, and W. J. Lowry, vice-president.

—Allen R. Nieman, superintendent of the consolidated school of Magnolia, Iowa, was elected president of the consolidated school section of the Iowa State Teachers' Association.

Art Knowledge and Art Appreciation

THE spread of the study of Art Appreciation in the schools is a commendable tendency of the times. It is to be encouraged, for it will develop, in all his later contacts, the child's discerning choice in what he wears and uses, and in the furnishings of his home. It will quicken his civic spirit—his interest in the beautifying of his community; its architecture, parks and art centres. The movement is nation-wide in its potential effect.

But hand in hand with art appreciation must go practical art work. Experience parallels appreciation. Therefore the pupil, by learning to draw, to paint, and to work artistically with his hands along industrial lines, will the more readily recognize beauty in the work of others, whatever the material, method or purpose.

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BUILDING NEWS OF THE SCHOOLS

—A committee of educators and citizens in New York City has been formed for the purpose of persuading the board of education of that city to adopt standards for the construction of high schools, the chief of which would be the limitation of such structures to a small size.

The committee, in a communication addressed to the board of education and received by that body at a recent meeting, characterized the tendency to erect large high schools as unfortunate, and asked that it be given a hearing to present its views in the near future.

It was brought out that of seven new high schools recently built, the smallest was planned to seat 3,200 students. Some of the principals of these new high schools have stated that the buildings are entirely too large.

—The new auditorium and gymnasium, now under construction at Lewiston, Idaho, has been named "Smith Hall" in honor of W. B. Smith, the superintendent of schools.

—The school board of Springfield, Massachusetts, is opposing the plan proposed by the common council whereby a centralized commission is to control the erection of school buildings. It is believed that all schoolhouse construction should be under the control of the school board.

—Whittier, Calif. The Whittier City School District on October 2, 1925, voted a bond issue of \$280,000 for three new elementary school buildings. On November 16th the bonds were sold to the Anglo-London-Paris Bank at a premium of \$13,026. With the money available on January 1, 1926, contracts were let and the buildings are expected to be ready for the opening of school in September.

—The village of Shorewood adjoining Milwaukee, Wis., voted bonds in the sum of \$150,000 and proceeded to contract for a schoolhouse. Then it was discovered that the assessed valuations, together with obligations already incurred, did not permit an issue above \$100,000. Consequently the \$150,000 issue was held illegal

and the bonds could not be marketed. The voters of the village unanimously agreed, however, to meet every obligation and to secure the needed schoolhouse.

The board of education of Cliffside Park, New Jersey, broke ground recently for a new twelve-room building and a twenty-room addition to the high school with appropriate ceremonies. Over one thousand children sang patriotic songs, while Pres. Herman F. Goeman threw the first shovel of soil. George F. Hall, supervising principal, extended an invitation to all the citizens. The opening paragraph of the invitation stated that: "The little one-room schoolhouse in which many prominent men of our country received their early education is rapidly being replaced, or abandoned, and consolidated with others where larger and more efficient accommodations can be provided. Rapidly growing communities are being provided with facilities adequate to care properly for the thousands of children that are now overtaxing many school buildings."

—Naperville, Illinois, has made a great improvement to the appearance of its high school building by the addition of eleven new rooms to house the new junior high school, consisting of the seventh, eighth and ninth grades. J. C. Llewellyn and Co. were the architects, O. A. Waterman, superintendent.

—George Spencer, assistant state superintendent of public instruction of Indiana, in a public address recently made the statement that town pride sometimes led to extravagance. There are townships that support two high schools where one would suffice.

—When the English high school at Lynn, Mass., was planned, it was intended to provide classrooms large enough to accommodate 42 desks, and a total study body of 1,600. In order to make a saving of \$3,200, the classroom size was cut down to accommodate only 30 desks. It now develops that this reduced the capacity by 156 desks and the total from 1,600 to 1,490.

—The school trustees of Redondo Beach, California, have completed a \$275,000 school building program. This includes a 13-room departmental school, with auditorium and gymnasium. Also a 14-room elementary school with

auditorium seating 450 pupils and a manual training shop. The first will be a class B and the second a class A building. This is the third year that J. B. Potter has served as superintendent. During this period 29 classrooms have been added. The program is made on a probable increase of ten per cent in school population and anticipates the needs for a period of four years. The community is in full accord with the policies advanced by the superintendent and the board of education.

—The city attorney of Sacramento, Calif., has recently ruled that no charge may be made for the use of school auditoriums to a body of citizens when no admission fee is charged. The school district must pay for heat, light and janitor service when the auditorium is in use.

—A new elementary school was dedicated at Rock Falls, Ill., on Friday, November 20th. The principal address was given by State Supt. Francis G. Blair.

—Plainfield, N. J. The school board has named the new East Seventh Street School for Dr. Henry M. Maxson, the present superintendent of schools.

—Knoxville, Tenn. The board of education has begun a study of the architecture, heating systems and ventilating methods of school buildings in larger cities preparatory to beginning its own building program. It is planned to visit St. Louis, Detroit, Dayton and other cities to become acquainted with the best building methods that have been developed.

—Eleven grade and five junior high schools will be completed in Chicago during 1926 and thirteen other grade schools will be erected next year. The 1926 building program calls for an expenditure of \$21,000,000, which will provide 21,000 seats toward meeting the shortage in accommodations. This is the largest year's program in the history of the Chicago schools.

It is expected that the new grade and junior high buildings will be on the new standardized plan worked out by the board architect. All of the buildings will be in units of four, eight, or twelve rooms. Of the sixteen buildings to be completed next year, all but one will be on sites one block square, affording space for playground and building expansion.

SCHOOL

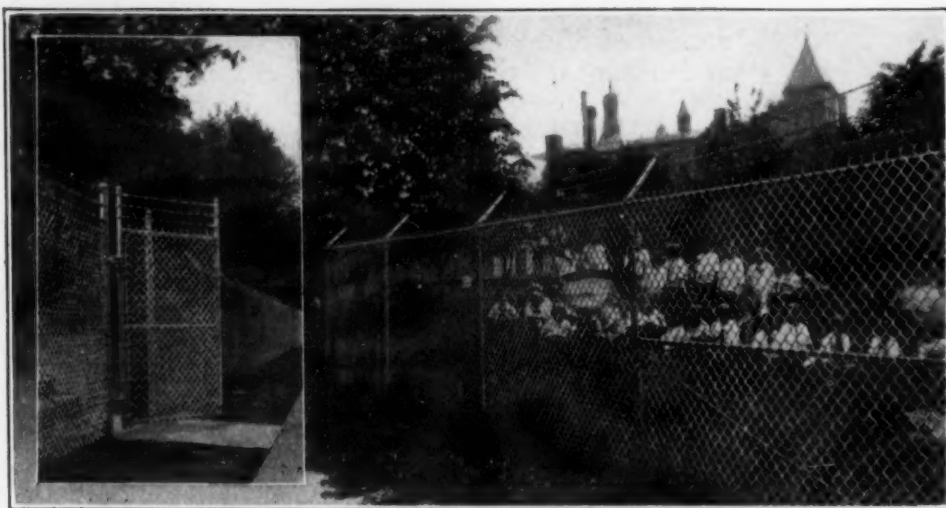


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FENCES



ENCLOSURES

—Sacramento, Calif. The city attorney has ruled that the board of education has no right to deny the free use of school auditoriums to any body of citizens within the school district, so long as their purpose is lawful and so long as no admission fee is charged.

—Chattanooga, Tenn. Approximately \$500,000 is being spent by the city for new schools and additions to the original plants. With opening of the new year in 1926, two new modern schools will have been completed. The new First District school building, which was begun in July last, will shortly be completed. The building which is two stories high, is fire-proof and provided with full equipment for school work.

—Cleveland, O. Overwhelming preferences for the board of education's \$2,000,000 bond issue and its graduated special tax levy over a five-year period have been expressed by the electorate of the school district. Indorsement of the bond issue and levy will make possible immediate construction of new school buildings in sections where children now are housed by portable buildings. The graduated tax levy will make possible inauguration of a pay-as-you-go policy in school administration, a system long contemplated under existing financial conditions. Chief among the new buildings to be erected from the bond issue of \$2,000,000 are three elementary schools in newly built sections.

—San Francisco, Calif. Six hundred thousand dollars for new schools has recently been approved. An expenditure of \$380,000 will be made for the new Lafayette School.

—The cornerstone of the new high school at Danbury, Conn., was laid on October 25th, with appropriate exercises. The building is being erected in gray brick and limestone and will be 185 feet in length and 136 feet in depth. It will be three stories in height, will accommodate 1,200 students, and will be erected at a cost of approximately \$500,000. It was planned by Architects Sunderland & Watson of Danbury, and is being erected under the direction of the Hewlett Co., of Bridgeport.

—Baldwin, N. Y. The corner stone of the new high school, which is to be built at a cost of \$500,000, was laid recently.

—Plainville, Conn. The school committee will shortly erect a high school to accommodate 250 students.

—Whittier, Calif. Supt. S. H. Thompson has reported the approval of a bond issue for \$280,000. The vote was three to one in favor of the issue which is to provide for the erection of three school buildings.

—Coronado, Calif. The students of the grammar school have occupied nine rooms of a \$50,000 addition to the school plant, recently completed.

—Brawley, Calif. The Union High School District plans the erection of three new buildings out of a bond issue of \$185,000.

—San Marino, Calif. Principal E. C. Neher of the San Marino grammar school is superintending the expenditure of a \$65,000 school bond issue. Two classrooms have been added in a new wing and the auditorium has been enlarged to seat 375 persons.

—The Pala school district, near San Jose, Calif., has voted favorably upon a \$36,000 bond issue. A site has been purchased and a four-room school will be erected with the fund.

—Crockett, Calif. Plans for the new buildings of the John Swett Union High School were approved recently and bids will be called for immediately after the sale of \$450,000 worth of school bonds.

—San Luis Obispo, Calif. The building of the first unit of the new high school will begin in the near future. The unit is expected to cost \$100,000.

—Wilmington, Calif. Completion of approximately \$250,000 in grammar schools is expected in the near future. The Wilmington Park School will be the first to be occupied.

—Pasadena, Calif. There will be 132 new classrooms available in the city school system when present construction work ends, according to Supt. John F. West. On the basis of forty students to a room, this will accommodate 5,280 more students in the elementary system than

has previously been the case. In the junior high schools 51 new rooms will accommodate 2,040 students. Approximately 1,000 students will be housed in the McKinley and Edison junior high schools when completed.

—The new Thomas Jefferson High School and the Richmond Hill High School, in New York City, have grown so rapidly that relief must be given them when the schools reopen for the second term in February. Annexes in large elementary schools will be made available for both schools on the recommendation of Associate Supt. Harold G. Campbell in charge of high schools.

—The school board at Bryan, Ohio, announces that it sees no way of opening the schools in September, 1926. Next year's funds will be expended this year. The school board members state that they feel it is better to have the break in school work next year, as contracts with teachers this year must be carried out, whether the schools remain open or not.

—The Denver, Colo., school budget for 1926 calls for \$5,234,800, with a levy of 12.5654 mills, an increase of .5854 of a mill.

—Derby, Conn. A high school addition, containing nine rooms, a gymnasium and an auditorium, will be erected, at a cost of \$150,000.

—Garfield, N. J. The cornerstone of the new Columbus School was laid, with appropriate exercises, on October 12th. Mayor William A. Burke, city councilmen and other city officials were present at the occasion. The principal address of the afternoon was made by Mr. Henry F. Buonocore, president of the board of education. The school which cost a total of \$257,000, will be ready for the February term. It was erected from plans prepared by Frank Pirrone, Jr., and Henry Gerritsen, associate architects, of Garfield.

—Chicago, Ill. The school board has approved a recommendation providing that the sum of \$2,750,000 be appropriated for the construction of the Calumet high school, and \$2,750,000 for the construction of the Fenger senior high school.



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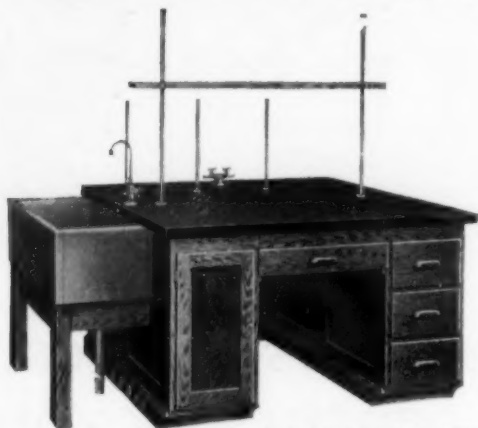
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NEWS OF THE SCHOOL BOARDS

THE ILLINOIS SCHOOL BOARD CONVENTION

One of the features of convention held by the Illinois School Board Association at Decatur, was an address by Dr. J. Cayes Morrison, who spoke on "The Legal Relationship Between the Board of Education and the Superintendent of Schools," which was challenged by several delegates.

The argument which he advanced was interpreted to mean that the function of the school board is to provide the buildings and the money necessary to operate the schools and that the superintendent should do the rest. In other words, the board of education having selected a superintendent he should be unfettered in his management of the schools. This was going rather farther than many of the school board men cared to go.

In relation to this there were several speeches made and Lewis J. Thiele, president-elect of the school board association, gave out the following statement for publication:

"I wish to make a clean-cut statement covering the proper relation of the superintendent of schools to the school board. The existence of the school boards is brought about by the educational needs of the children of the state. The school board assumes full responsibility for the furnishing of this service. In order to do this effectively a superintendent trained for the service is engaged.

"As a business organization engages a superintendent to carry out, first establishing its policy and determining upon the product to be produced, so likewise the school board must determine its policy and decide the product it wishes to produce.

"Consequently the determination as to policy and the decision as to the product should always be in the hands of the board and should always be considered its sacred charge.

"This statement of fundamental principles

was accepted without a dissenting voice by superintendents and school board members in their final joint session."

The fuller organization of the school board association by counties was proposed and plans were made for carrying this out through county and township cooperation. A. A. Pitt of Park Ridge, Ill., was made chairman of a membership committee to lead the campaign.

Professor Littleton of the School of Commerce of the University of Illinois made a short talk at the afternoon session on the importance of proper accounting in the public schools, emphasizing the point that it is quite as essential to determine unit costs in education as it is in industry. The state university is doing this, he said, and he offered the system evolved by this institution to the school boards of the state.

A committee was appointed consisting of Mr. Filbey of Urbana, William Harris of Urbana and Mr. Earnest of Champaign to cooperate with the state university in working out a uniform system for the public schools of the state.

At the joint afternoon session it was voted to continue the legislative committee. Attention was called by the presiding officer to the fact that the work of this committee would have to be financed. No considerable enthusiasm was apparent in the joint assembly, but a motion was made by a member that since before the next meeting there will be no legislative session, during this period \$2,000 be provided for the committee. At the next meeting they will report their actual financial needs.

The association voted to hold next year's convention at Belleville. The superintendents who meet simultaneously with the school board members and during one session engaged in a joint meeting had chosen Springfield for the next meeting. An effort will be made to agree upon the same city for both organizations.

THE ALL-YEAR SCHOOL IN DOUBT

The board of education of Newark, N. J., is still in doubt on the all-year school plan which has been in operation in that city for a few years. It is regarded as a success by a number of school principals while Superintendent Corson deems it a failure. Dr. O'Shea and Dr. Ferrand, two experts, who were invited to determine the question were unable to come to a

conclusion. They suggested a comprehensive survey. The Newark News says:

"Dr. Corson is fully convinced of the failure of that plan. His judgment is based upon an exhaustive study to which he has given his best professional skill and judgment. He began an ardent champion of the all-year school and ended as its most bitter adversary. His change of attitude resulted from his investigations and so rests upon the facts which he brought out, not upon mere bias.

"Friction exists now in places; too much of it. Some administration officers and some principals are affected. There are school politics and school politicians. Harmony in the board and throughout the school department is far away. A thoroughly conducted survey would point to the deficiencies, even suggest a cure.

AMONG BOARDS OF EDUCATION

—Joplin, Mo. A special advisory board has been appointed to assist the board of education in the expenditure of \$750,000 in school bonds and in the subsequent building rehabilitation program. Mr. G. N. Spiva was made chairman and Mr. W. B. Dunwoody vice-chairman.

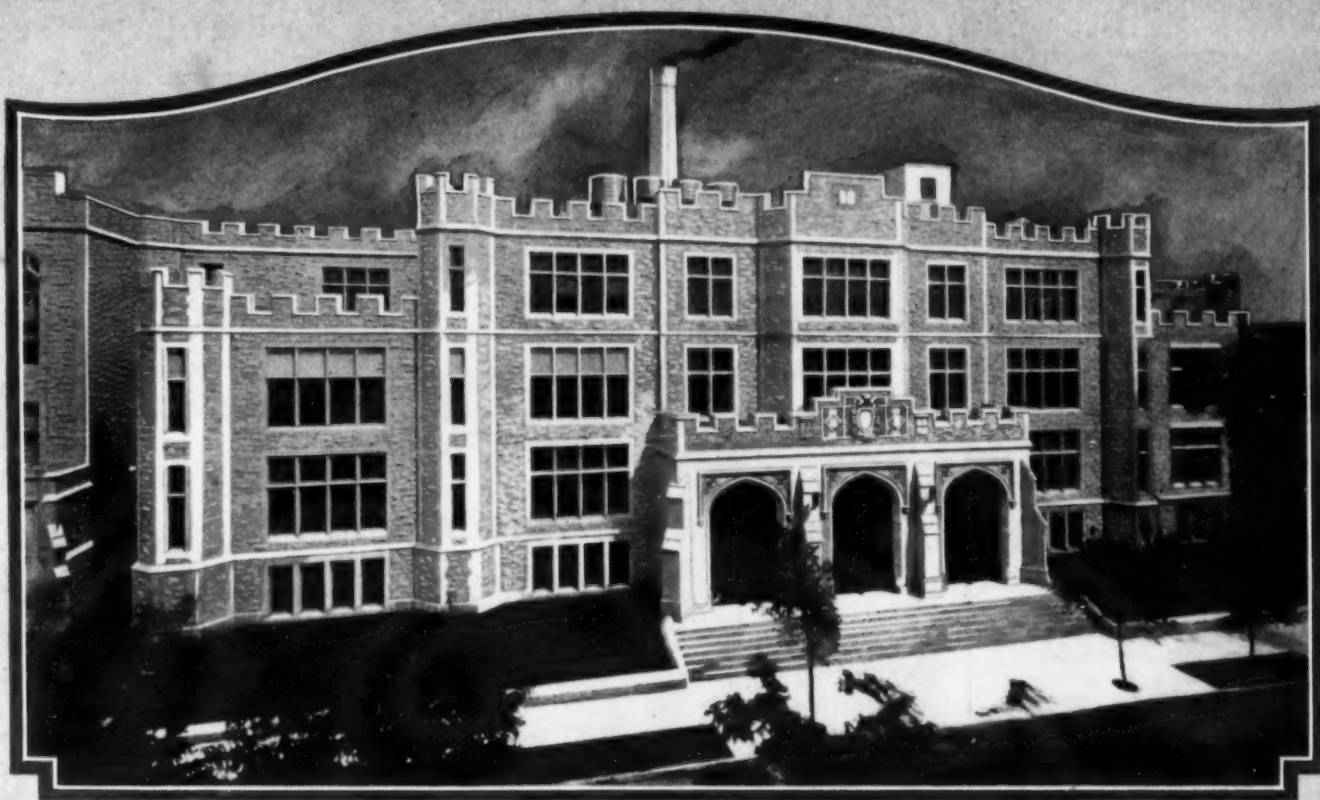
—Billings, Mont. The school board has adopted a policy to the effect that absent school trustees will be removed from membership. It appears that some members have been dilatory in attendance and the burden of the work has fallen on the shoulders of those in attendance.

—Newark, N. J. The board of education has authorized a complete survey of the all-year schools. In a special resolution the board has authorized Dr. M. V. O'Shea and Wilson Farland to continue with the initial survey begun last June. The survey will be made in accordance with a prearranged plan and will cost about \$12,000.

—Providence, R. I. The old thirty-member school board has been replaced by a new seven-member board. The thirty member board has existed since 1889, and during this time it had six presidents.

—Senator C. B. Frothingham of Lynn, Mass., has filed a bill in the legislature calling for an increase from two to four years in the length of term of members of the Lynn school board. Under the bill the present board would serve

(Concluded on Page 124)



Central Unit of the
JOLIET HIGH SCHOOL

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THE high school structure today embodies many materials unknown and unneeded fifty years ago. Chemistry as taught in "the eighties," was a matter of a text book and a few "tricks," or experiments, performed on the teacher's desk.

Today the chemistry and science courses require completely equipped laboratories in which corrosive chemicals are continually used. In consequence, the drain lines, traps, sinks, etc., of this department should be of a material that will resist the attack of all corrosives.

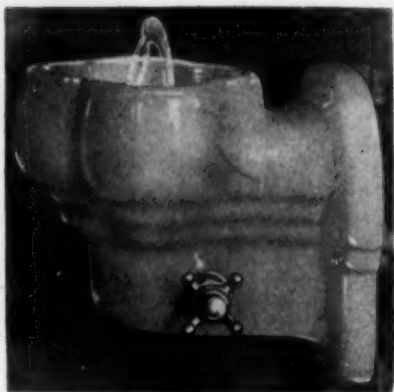
Nearly a thousand school laboratories, equipped since 1920, have Duriron acid-proof drainage equipment, because no other equal material is produced.

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a handsome wall fountain, combining sightliness with sanitation; not surpassed by any fountain, and containing exclusive features found in no other.

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This is the outstanding feature of these modern hygienic fountains.

Automatic stream control means a uniform height of drinking stream regardless of pressure variation. Thus the stream is never too high—never too low! And it is sanitary in the extreme, it being impractical for lips to touch the projector. Other distinctive advantages are described in our complete catalogue. Write!

THE HALSEY W. TAYLOR COMPANY

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HALSEY TAYLOR

DRINKING FOUNTAINS



*Automatic
Stream Control*

(Concluded from Page 122)

until January, 1928, with an entire board to be elected in 1927.

—Ashland, Ky. The school board has adopted new rules to overcome several differences between the laws governing schools of the third class cities of Kentucky and those of the second class.

Under the law governing second class cities, the board of education is composed of five members instead of nine; the treasurer of the board must be the city treasurer or some bank; the purchasing of supplies, the employment and oversight of janitors, and the responsibility of caring for all building and repair projects must be centered in a full-time official designated as business director.

—The board of education of district 4, Huerfano County, Colorado, has issued a printed statement as to its standards in the employment of teachers. These require that

- (1) All teachers must be over 18 years of age.
- (2) All teachers and assistant teachers must have a valid certificate.
- (3) All candidates for positions must satisfy the Teachers Committee of the Board as to
 - (a) Health.
 - (b) Morality.
 - (c) Social standards.
 - (d) Education.
 - (e) Special training.

—Minneapolis, Minn. The traffic committee of the board of education has ordered that the new stop-school signs replace the former "slow" signals in the vicinity of schools, and that the stop signs be placed in the streets at 8 o'clock and at 3:45 o'clock. The old signs are to be removed and stored awaiting future disposition.

—Traverse City, Mich. At a recent meeting of the school board, it was voted to eliminate all standing committees. These committees have been replaced with a rotating auditing committee, consisting of three members, one of whom retires each month. The work of the committee is to audit the bills for payment each month.

The school board meets twice a month during the school year and is thus able to keep in touch with school matters as a group. It is planned

to appoint special committees from time to time as the necessity arises. The change is believed to be a decided step forward in school board organization and administration.

—The board of education of Omaha, Nebraska, in discussing building projects proposes to change from open to closed sessions. The Omaha News in discussing the change editorially says: "On broad principles, secret sessions of public boards are wrong. To discuss, behind closed doors, the various aspects of great undertakings like building twelve or fifteen new schools, is not only unwarranted but audacious and an affront to a community of intelligent people. If there are any members of the board of education who have independence in their makeup, the thing for them to do is to throw the doors wide open Thursday noon or bolt the meeting if other members of a star chamber session have the temerity to carry out their plan."

—"Members of the board of education receive no pay for their services even though they are called upon to pass on the expenditure of the large sum that is annually received for educational purposes," said the Mansfield, Ohio, News recently. "Much is asked of them, but as a general rule the fact is not taken into consideration that they are acting upon their best judgment as to the benefits that are to be derived by the public as a whole and not by any particular group. The theory of the school city plan is that it will invite the help of public-spirited men and women, willing to give time and thought with no hope of monetary reward."

—At the meeting of the Rhode Island Association of Public School Officials, Dr. Walter E. Ranger, state school commissioner, contended that there must be complete freedom of school departments from city council domination. In making his plea against interference Dr. Ranger pointed to the present evils of divided responsibility and urged that school committees be made entirely responsible for fulfilling their obligations of providing the best possible education for children.

—Ernest W. Allen of the Lynn, Massachusetts, board of education raised objections to the various special weeks observed in the schools. "First it is apple week, then potato

week, then flower week, and weeks for this, that and the other thing," he said. "Soon there won't be enough weeks to go around for the various campaigns in which the boys and girls are to participate. The exploitation of school children is going too far."

—Dr. A. G. Coughlin and Leon E. Loomis were elected members of the Athens, Ohio, school board.

—St. Louis, Mo. The school board has revised its rules, providing that the superintendent shall have power, with the approval of the board, to appoint as many assistant superintendents as may be provided by the board, whose compensation shall be fixed by the board, and who may be removed by the superintendent with the approval of the former.

HIGH SCHOOL ADMINISTRATION

—The high school at Trinidad, Colo., has been presented with a radio broadcasting station and will broadcast lectures and programs after January 1st. The station is licensed and operates on a wave length of 238 meters. The work of installing and operating the station is in charge of the instructor in physics and the members of the radio club of the local high school.

—Forty girls of the Fargo, N. Dak., high school are earning all or part of their way through school, according to Miss Emma Bloomquist, dean of girls. Through the aid of the employment department maintained by the school authorities, the girls obtain work in families and thus earn their board and room rentals. While some are employed in the care of children, others do light housekeeping.

—At Lindsay, California, a community entertainment course has been placed in operation under the direction of Supt. J. H. Bradley. The plan was evolved last May when 150 men and women of the community were induced to donate \$5 to a special fund in charge of the Chamber of Commerce. The fund was used to purchase an entertainment course of four evenings for the benefit of the community. The local commerce body appointed a committee to purchase the talent and to administer the plan. The programs are of the Orpheum type and all who can will be accommodated in the city's largest auditorium. The plan is meeting with considerable success at the present time.



A typical Sani school cafeteria installation in the High School of Commerce, New York City.

for school and college cafeterias!

Sani-Onyx cafeteria counters and tables are equipped with the patented Raised Rim feature which gives added strength at the rim, preventing breakage. It also prevents spilled liquids from running on to the clothing of students. **Sani-Metal** stools, sturdily built to withstand the gaff of school usage. If you are planning a school cafeteria installation, write to the nearest fixture supply house or to this office for information. Send us an outline drawing of your room, the location of doors and windows, and state number of persons you desire to serve at one time. We will furnish you a blue print layout of a **Sani** installation suited to your requirements, free of charge. Write today!

75 or 75,000 meals will not affect the serviceability of **Sani** cafeteria equipment

The real test of school or college cafeteria equipment is the test of service. **Sani** food and drink equipment for school cafeterias gives satisfactory service year after year. It is built to stand the rough usage of school wear.

Sani equipment is economical. It eliminates replacements and repair—a time saver, a saving in operation which makes it the most economical school cafeteria equipment on the market today.

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Sani Products Co., 300 Sani Bldg., North Chicago, Illinois

Dear Sirs: We are contemplating a

☐ Cafeteria Installation

☐ Remodeling our present cafeteria

and ask that you send us full details on **Sani** School and college cafeteria equipment.

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Address _____

City _____

State _____

SCHOOL ADMINISTRATION

—In a recent public address, Frank W. Wright, deputy commissioner of education for Massachusetts, holds that there were five main factors for a well-molded, strong, upright public schools system all of which were dependent upon each other. They are: proper legislation, finance, provision of well-trained supervisors and teachers, well-informed, forward-looking, sympathetic public opinion, and the realization of the opportunities and obligations that are embodied in the public schools.

—Harris Hart, state superintendent of Virginia, has issued a report for 1924 on the high schools of the state which now maintains 345 rural and town high schools, 27 city high schools, and 34 junior high schools. The total enrollment is 44,506, which represents an increase of 12.5 per cent over the previous year. The per capita cost on instruction in rural high schools has increased over the previous year from \$62.30 to \$64.40 owing to an increase in teachers' salaries. In the rural junior high schools the per capita cost increased from \$62.50 to \$71.25 due to a decrease in enrollment.

—The school authorities of Boise, Montana, emphasized American education week by securing full page descriptions of their school system in the local press. The data was supplied by Supt. C. F. Dienst.

—The reading of the King James version of the Bible in the schools of Platteville, Colo., is held to be an act forcing children of the Catholic faith to subscribe to a religion which they do not believe, in an argument of counsel for W. H. Scofield, a farmer who seeks to restrain the school board from enforcing its ruling that the Bible be read in the schools. Mr. Scofield held that the reading of the Bible may not be separated from its religious rule even when taught as literature or history.

—A survey of seating arrangements in the schools of Boise, Ida., has been conducted by principals and teachers in an effort to remedy any defects found. It is planned to give each child the right size of seat in order that all the pupils may sit in a healthful posture.

—Pittsburgh, Pa. The school board is constantly striving to eliminate double-session and double-shift classes as a means of relief from crowded conditions. In March, 1925, there were

fourteen schools where one or the other plan was in force, with 372 pupils affected. At the present time only a few of the fourteen schools remain on the double-session plan.

—Binghamton, N. Y. The department of education will remove its executive offices to a new location in the McLean house recently purchased by the board.

—The school board of Hagerstown, Md., has been asked to discontinue the selling of candy in the schools. The candy is sold under a commercial license and for the purpose of obtaining extra equipment such as victrolas, pianos, etc. The practice has been opposed by near-by stores on the ground that the schools have cut into their candy sales.

—Fall River, Mass. The position of supervisor of special classes has been created by the board with the appointment of Miss Mary A. Flanagan to the position.

—Oliver H. Toothaker, recently superintendent of schools at Rockland, Mass., has been denied a writ of mandamus, seeking to restrain the school board from removing him from office, as a result of a ruling of the Supreme Court.

—Double sessions for a temporary period have been suggested at Louisville, Ky., as a means of making up time lost through the infantile paralysis epidemic which occurred late in October. Teachers in the schools were paid for the enforced vacation.

—Creation of a non-political state board of education and provision for the distribution of the state school fund by the legislature are important innovations to be considered for the state of Kentucky, according to State Supt. George Colvin. Mr. Colvin pointed out that there is need of a new constitution, better administrative ability and better leadership.

—Organization of the county rather than the township or district as the unit for school supervision to secure more efficient schools in the small communities in Iowa has been recommended by Dr. A. E. Bennett, dean of the college of education of Des Moines University. Dr. Bennett holds that a county superintendent in charge of all the schools of the county would prove more economical and would result in a higher standard of education. Specialists in drawing, music and other subjects would be employed the same as in large cities.

SCHOOL ADMINISTRATION NOTES

SCHOOL PROGRESS IN FLORIDA

The population impetus which Florida has experienced in recent years has also made unusual demands upon the school authorities. R. S. Blanton, superintendent of Pinellas County, now presents a few facts to demonstrate the school growth in the tourist section of the state:

"Pinellas County, located on a peninsula on the west coast of Florida near the southern portion of the state, is considered one of the most thriving counties in the state of Florida from the points of education and wealth. It is a great tourist county and for that reason the educational forces of the county are continuously busy in providing educational accommodations for the rapidly increasing population. The county is divided into fourteen districts and the development within these districts is so rapid that the assessed valuation in a number of instances has doubled and even trebled within a year's time.

"Building construction is financed by means of bonding the districts within which construction is had. Last May there were nine districts which bonded for a total of \$2,215,000 and with the proceeds of these bonds we have launched a building program which is still under way and which largely copes with the situation. At that time, we thought we were bonding to take care of the growth of five years. We find now that the program will be entirely inadequate for the coming year. Within the next 90 days there will be an additional bond issue of a million and a half. There is no doubt but that this program will be repeated year after year judging from the program of the last decade. There seems to be no let-up in the interest that the people of the north manifest in the mild and pleasant winters in Florida."

Investigate!

The John Harris High School of Harrisburg, Pennsylvania, is called the finest High School in the United States—which means that the best of everything was used in its planning, construction and equipment. *Naturally*

THE NATIONAL SYSTEM AUTOMATIC TEMPERATURE CONTROL

The regulation of temperature in a school is most important because it vitally affects the welfare of our children daily, for hours at a time.

Should the appropriation be limited, there are many things that can be spared that are less essential than proper control of temperature.



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Offices in the Principal Cities

A long list of National equipped schools on application. Ask any of them.

—Under a new order of the school board, exit doors of the grade schools at McPherson, Kans., will be opened at 8:30 for the balance of the winter to permit children to enter the classrooms in case of cold or inclement weather. The board also urged that children be kept at home as long as possible and not sent to the school far in advance of the hour set for opening sessions.

—Seymour, Conn. Supervised study has proven a great success in the high school. Departmental teaching in the seventh and eighth grades is now an established method, having been introduced experimentally last year. Group study is another feature which is being introduced in the schools.

—The school board of Philadelphia conducted a school census the past year, beginning with April 1st, and ending with July 14th. Upward of 200,000 homes were visited and more than one-third of a million children were registered.

The report of the census this year shows a total enumeration of 337,028 children, 6 to 15 years of age, inclusive, an increase of 705 over the total enumeration for 1924. The number of 14 and 15-year-old children employed is 6,887, which is 471 less than the number reported employed in 1924, and 11,835 less than the number reported in 1915.

The number of children enumerated as neither enrolled in school nor employed is 13,206. Most of these children are 6 and 7 years of age and constitute the army of beginners who apply for admission at the opening in September. The group of children of compulsory school age not enrolled and not employed (755) is composed largely of children who have been permanently excused from school as physically or mentally incapacitated.

An analysis by racial groups shows a decrease of 571 in the number of white children and increases of 26 in the number of Mongolian and 1,250 in the number of colored children. The white population has been decreased by 2,225 children during the last three years, while the colored school population has been increased by 6,899 children.

—The Alabama Educational Association has compiled figures showing the percentage dis-

tribution of rural white schools and pupils, classified according to the number of days the schools were actually in session. The material was compiled from annual reports of county superintendents for the school year 1923-1924 and deals with rural schools only and with enrolled white pupils only.

A careful study of the figures brings out many interesting facts. For example, in each of ten counties of the state more than fifty per cent of the enrolled pupils were in schools open less than 100 days, and of these ten counties, one had no schools open more than 119 days, one had none open more than 139 days, and six others had less than ten per cent of their enrolled pupils in schools which were in session as long as 160 days. In each of eleven counties more than fifty per cent of the enrolled pupils were in schools open as long as 160 days, and of these eleven counties, two had all their enrolled pupils in schools open as long as 160 days, five others had more than 90 per cent of their enrolled pupils in schools open this long, and only four of the eleven had any schools open less than 100 days.

It is evident from the study that the small one and two-teacher schools have the shortest terms, since the percentage of schools having the shortest terms is in every case larger than the percentage of pupils in shortest term schools.

—Wheaton, Ill. The seventh and eighth grades have been reorganized on the departmental plan. The students are being housed in the old high school building which has been adapted to junior high school purposes.

—Windsor Locks, Conn. The board of education has discontinued state supervision of its schools with the close of the first semester. The plan is to return to the former practice of having a local supervisor of schools.

RULES AND REGULATIONS

—The school board of Milton, Massachusetts, has adopted a rule forbidding school children from soliciting rides in automobiles. "This has grown to be a nuisance," according to a member of the Milton school committee, "and objections have been made. A good many people dislike to refuse to give the boys and girls a ride, but

at the same time they hesitate to assume the responsibility that would be placed upon them under the laws of the state for the safety of the occupants of their car should they accede to the requests. They also object to the bold manner in which such requests are sometimes made."

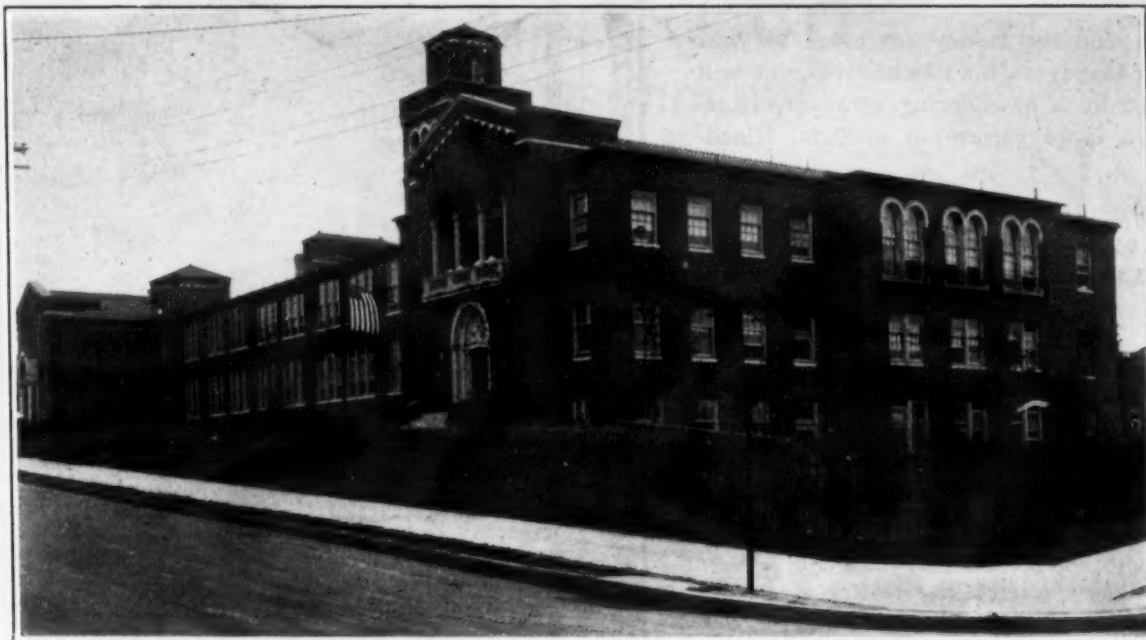
—Several of the New England boards of education in line with an established policy refused to allow collections for the "Old Ironsides" fund to be made in the schools. The New Bedford, Mass., school board has allowed a collection in the schools, limiting the contributions to five cents each to be deposited in a box attached to the teacher's desk.

—The school board of Madison, Minn., has adopted a rule forbidding teachers to attend dances on nights preceding a school day. The teachers filed a protest, suggesting at the same time that the rule apply to pupils as well.

—St. Louis, Mo. The school board has revised its rule governing the awarding of contracts for new school buildings. Under the new rule, no contract may be made for the erection or construction of any building improvement, alteration, or repair, the total cost of which exceeds the sum of \$10,000, until bids are requested or solicited by advertising for ten days in one paper; and if the cost of the work contemplated exceeds \$35,000, the same may be advertised for ten days thereto, and must also be advertised for ten days in two daily papers having not less than fifty thousand daily circulation.

The board has revised another rule governing the work of the commissioner of school buildings. It is provided that the commissioner of buildings shall have charge of all buildings owned by the board of education and the grounds upon which such buildings are situated, and all property movable and permanently affixed to such buildings and grounds.

The commissioner will be responsible for the care of all such buildings and grounds, and of such property both movable and affixed, and he must report to the board from time to time on the assistance he requires for such purposes.



Lincoln School, Trenton, N. J. Architect: W. W. Slack and Son.

The WHY of Dunham Heating for schools like this — and all others

THERE is a WHY back of DUNHAM Heating for schools just as there is a why which accounts for the unanimity with which this modern system of heating has been selected for other types of buildings.

Possibly the unparalleled efficiency of Dunham Heating has had something to do with its well nigh universal acceptance by schools. Perhaps its evenly-distributed, easily regulated, healthful heat has been a determining factor in its selection. Or it may be that Dunham quick, positive circulation, Dunham Silence, or Dunham Durability were what appealed to so many of the nation's school architects and engineers, superintendents and school boards.

Whatever the reasons for Dunham popularity, you will find that the Dunham Low Pressure Steam Heating Specialties, including the Dunham Trap and the Dunham Packless Radiator Valve, have contributed their share to Dunham's dominant position as the best heating system for all educational institutions.

There are no half hot, noisy, laggard radiators in the Dunham System. There are no cold corners or hard-to-heat rooms in a Dunham heated school. Wherever you find Dunham you will find heating comfort in all weathers, health, economy, long-life in every unit of construction, and a satisfaction which has won for Dunham Heating a name for 100% Service in America's schools.

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When you spend the money entrusted to your care, by your taxpayers, for Blackboards, you will be confronted by a bewildering array of claims in favor of a large variety of artificial Blackboards.

You do not want to purchase anything that needs "purchasing over" or that will pledge you to further expenditures. That is why you will want to equip your School with our

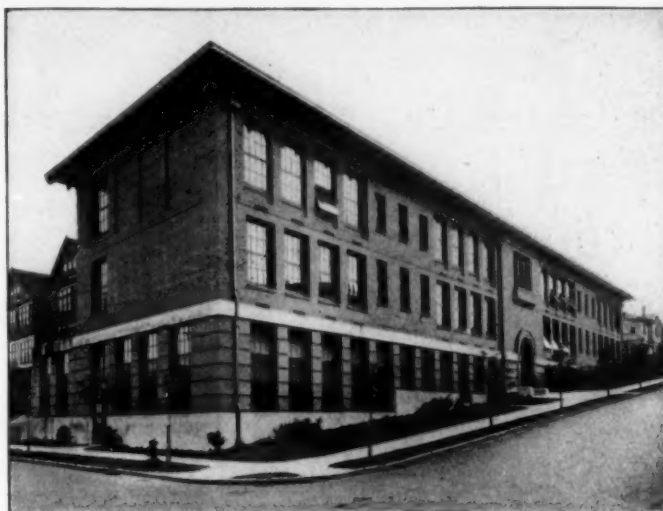
Natural Slate Blackboards

They require no upkeep, while artificial Boards must be resurfaced, repaired and replaced regularly. In comparison, the word "economy" is defined in its truest sense. It is finished with a beautiful, velvety smooth surface that does not become gray with age or use; that makes writing a pleasure and reading a relief to the eyes of the students and teachers. These are but a few of the advantages. Before you spend a dollar for Blackboards, you should read our book "How to Judge, Specify and Install Blackboards." Send for it today.

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Sound-proofed with Cabot's Quilt.
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Sound-Proof Schoolrooms

Civilized school-house construction now recognizes sound-deadening in floors and partitions as a necessity that is second only to light and ventilation. Quiet rooms are essential for both pupil and teacher.

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is the standard deadener—sound-proof, sanitary and fire-resistant.

Sample of Quilt and book on School-house Deadening sent on request.

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SCHOOL LAW

Schools and School Districts

Under the North Dakota Comp. Laws of 1913, § 1147, as amended by the Sess. Laws of 1919, c. 197, a petition proposing the organization of a new school district, from the territory previously embraced within the school district lying within two or more adjoining counties, must be presented for concurrent action to the boards of county commissioners and the county superintendents of the counties within which the original district was embraced, they being "affected" within the meaning of the statute, in view of section 1327, and following the provisions requiring representation by each district in adjusting assets and liabilities.—State v. Laman, 204 N. W. Reporter (West) 845, N. D.

Since the "exact census," which the clerk of each school district is required by the Montana Rev. Codes of 1921, § 1051, to make, must be precisely accurate, and cannot include any person legally residing elsewhere, the clerk must determine the question of residence of each child enumerated, and therefore has no right to compel the superintendent of the institution to give necessary information to enable her to include inmates, where their enumeration would not be legal.—State v. Kassing, 238 Pac. Reporter 582, Mont.

Under the Montana Rev. Codes of 1921, § 33, and section 574, subd. 2, and in view of various sections providing for the detention and education of the inmates of a state vocational school for girls within an institution itself, their enumeration in census, required by section 1051 to be taken by the clerk of the school district, would not be legal, and a mandamus to compel the superintendent of the institution to enable the clerk to obtain the necessary information was properly refused, and the fact that inmates in past have received benefits from the district is immaterial.—State v. Kassing, 238 Pac. Reporter 582, Mont.

Where the county superintendent, after expiration of term of office, held over under void

law, attempting to extend his term from two to four years, held failure of county court to hold election for office at expiration of term did not preclude holding election at a subsequent term preceding the end of another full term of two years.—State v. Morrison, 274 S. W. Reporter 551, Tenn.

School District Property

The electors of a common school district have authority to direct erection of a new school-house, and provide funds therefor, and, when this is done, the school board has the duty to carry such instructions into effect.—State v. Anderson, 204 N. W. Reporter 925, Minn.

The electors of a common school district have authority to designate a school site, and provide funds therefor, and, when this is done, the school board has the duty to carry such instructions into effect.—State v. Anderson, 204 N. W. Reporter 925, Minnesota.

Conceding that the textbook contract was voidable because the statutory affidavit required of contractor was insufficient, held that, on approval of such contract by state board of education, any irregularities in its execution were waived, and the contract became an enforceable one.—Macmillan Co. v. Marrs, 273 S. W. 794; Row, Peterson & Co. v. Marrs, 273 S. W. Reporter 795, Texas.

The action of the state board of education in establishing the identity and validity of contract for textbooks, legally made by the state textbook commission, and ordering its performance by the state superintendent of public instruction, under Vernon's Ann. Civ. St. Supp. 1922, arts. 2904½ and 2904¾, is final and conclusive, unless set aside under Vernon's Ann. Civ. St. Supp. 1918, art. 2909n, by proper judicial action, for sufficient legal reasons, and cannot thereafter be annulled or set aside by the board.—Laidlaw Bros. v. Marrs, 273 S. W. 789; Charles Scribner's Sons v. Marrs, 273 S. W. 793; W. H. Wheeler & Co. v. Marrs, 273 S. W. 793; Silver, Burdett & Co. v. Marrs, 273 S. W. 793; D. C. Heath & Co. v. Marrs, 273 S. W. 794; Johnson Publishing Co. v. Marrs, 273 S. W. Reporter 794, Texas.

A cost plus contract with the city for the erection of a school building, made in an effort to follow the Wisconsin Statutes of 1919, § 925-118a, is held to establish relationship of the

owner and the contractor rather than the principal and the agent, and therefore section 4549, prohibiting an agent of a city from having financial interest in a contract with it, was not applicable.—Baumann v. City of West Allis, 204 N. W. Reporter 907, Wisconsin.

The Wisconsin Statutes of 1919, § 925-118a, regulating municipal contracts for school buildings, held applicable to a city of the fourth class, organized under the general charter law, notwithstanding the section was not specifically adopted by the common council, as provided in section 926.—Baumann v. City of West Allis, 204 N. W. Reporter 907, Wisconsin.

A contract for services of an architect to prepare plans, drawings, and specifications, and in making preliminary studies for the erection of a schoolhouse, is for professional services within exemption from the requirement of the North Dakota Comp. Laws 1913, 1356, that contracts for expenditures of school funds shall be let only after advertising for proposals and to the lowest bidder.—Rosatti v. Common School Dist. No. 96, Cass County, 204 N. W. Reporter 833, North Dakota.

Under the Wisconsin Statutes of 1919, § 925-118a, preparation of plans and specifications, advertising for bids, and reception of bids for school building in fourth-class city should be done by the board of education, and not by a building committee composed of members of the common council and board of education.—Baumann v. City of West Allis, 204 N. W. Reporter 907, Wisconsin.

Where a city's contract for the erection of a school building on cost plus basis established the relationship of owner and contractor, a subsequent resolution of the city council, assented to by contractor and surety, and providing that thereafter the contractor should be the city's agent for completing work in accordance with the contract, is held not to change the character of the contract to disadvantage of the city; so as to affect third parties not agreeing to resolution.—Baumann v. City of West Allis, 204 N. W. Reporter 907, Wisconsin.

After repudiation by the contractor of the agreement to erect a school building on the cost plus basis, when the building had been 88 per cent completed, his discharge and the letting of the work was not wrongful.—Bau-

(Concluded on Page 132)

School Keeps (and costs money) Whether Pupils Come or Not

HAVE you ever figured out how much it costs to maintain your schools for pupils absent because of sickness?

It is difficult to get accurate figures, but in one community surveyed by the Public Health Service, it is estimated that in one school year it cost \$9,500 for the operation and maintenance of schools for children unable to attend because of illness.

Of this amount \$4,800 was chargeable to respiratory diseases alone which are practically eliminated by correct heating and ventilation. This sum, considerable as it is, does not include doctor bills paid by parents, nor does it include the cost to the community of pupils who, because of illness, have to repeat classes.

A System You Will Like

In your desire to secure the most efficient and economical system that will cut down this waste, you can see the value of ventilation and heat from equipment that will not rust, freeze or explode.

"The American System" ventilates and heats at the same time. Every eight minutes the classroom air is completely replaced by fresh outdoor air that has been warmed and humidified. The pupil in the corner seat is as comfortable as the pupil near the window. No one is in a draft. Lurking germs and dust never get a chance to attack tender throats. The

pupils do better work with far less time out because of sickness. And another unnecessary drain of money needed for constructive effort has been stopped.

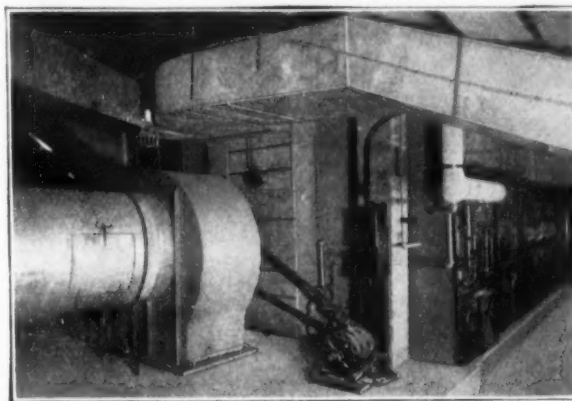
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Any type of fuel or fuel oil may be burned in the Direct Transmission Heaters of "The American System." These are constructed exclusively of cast iron which will not rust and is many times as durable as steel under fire. There are no boilers, piping, radiators, etc., to freeze up overnight or Sunday. There is no confined steam to explode.

Plants of "The American System" installed over thirty-five years ago and used continuously are rendering efficient service today. One responsible company of forty years' standing, through its authorized representatives, engineers, installs and guarantees "The American System."

Make Arrangements This Summer

This is a good time for you to get information about this system and to make arrangements for installation. Whether or not you have the actual figures for your school, illness directly traceable to poor ventilation and heating is using the money that should be devoted to needed improvements. "The American System" will save this money for you.



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Not content with "near-perfection," we have recently made improvements in Carrier Air Washers which make them more than ever the finest equipment in the world for supplying pure, tempered air for schools.

Better spraying system, better eliminating apparatus, better controls, better materials, better facilities for inspection,—in every way the improved Carrier Washer is BETTER.

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GOOD JUDGMENT

When you spend the money entrusted to your care, by your taxpayers, for Blackboards, you will be confronted by a bewildering array of claims in favor of a large variety of artificial Blackboards.

You do not want to purchase anything that needs "purchasing over" or that will pledge you to further expenditures. That is why you will want to equip your School with our

Natural Slate Blackboards

They require no upkeep, while artificial Boards must be resurfaced, repaired and replaced regularly. In comparison, the word "economy" is defined in its truest sense. It is finished with a beautiful, velvety smooth surface that does not become gray with age or use; that makes writing a pleasure and reading a relief to the eyes of the students and teachers. These are but a few of the advantages. Before you spend a dollar for Blackboards, you should read our book "How to Judge, Specify and Install Blackboards." Send for it today.

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Lowell School, Seattle, Wash.
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Edgar Blair, Architect, Seattle.

Sound-Proof Schoolrooms

Civilized school-house construction now recognizes sound-deadening in floors and partitions as a necessity that is second only to light and ventilation. Quiet rooms are essential for both pupil and teacher.

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SCHOOL LAW

Schools and School Districts

Under the North Dakota Comp. Laws of 1913, § 1147, as amended by the Sess. Laws of 1919, c. 197, a petition proposing the organization of a new school district, from the territory previously embraced within the school district lying within two or more adjoining counties, must be presented for concurrent action to the boards of county commissioners and the county superintendents of the counties within which the original district was embraced, they being "affected" within the meaning of the statute, in view of section 1327, and following the provisions requiring representation by each district in adjusting assets and liabilities.—State v. Laman, 204 N. W. Reporter (West) 845, N. D.

Since the "exact census," which the clerk of each school district is required by the Montana Rev. Codes of 1921, § 1051, to make, must be precisely accurate, and cannot include any person legally residing elsewhere, the clerk must determine the question of residence of each child enumerated, and therefore has no right to compel the superintendent of the institution to give necessary information to enable her to include inmates, where their enumeration would not be legal.—State v. Kassing, 238 Pac. Reporter 582, Mont.

Under the Montana Rev. Codes of 1921, § 33, and section 574, subd. 2, and in view of various sections providing for the detention and education of the inmates of a state vocational school for girls within an institution itself, their enumeration in census, required by section 1051 to be taken by the clerk of the school district, would not be legal, and a mandamus to compel the superintendent of the institution to enable the clerk to obtain the necessary information was properly refused, and the fact that inmates in past have received benefits from the district is immaterial.—State v. Kassing, 238 Pac. Reporter 582, Mont.

Where the county superintendent, after expiration of term of office, held over under void

law, attempting to extend his term from two to four years, held failure of county court to hold election for office at expiration of term did not preclude holding election at a subsequent term preceding the end of another full term of two years.—State v. Morrison, 274 S. W. Reporter 551, Tenn.

School District Property

The electors of a common school district have authority to direct erection of a new schoolhouse, and provide funds therefor, and, when this is done, the school board has the duty to carry such instructions into effect.—State v. Anderson, 204 N. W. Reporter 925, Minn.

The electors of a common school district have authority to designate a school site, and provide funds therefor, and, when this is done, the school board has the duty to carry such instructions into effect.—State v. Anderson, 204 N. W. Reporter 925, Minnesota.

Conceding that the textbook contract was voidable because the statutory affidavit required of contractor was insufficient, held that, on approval of such contract by state board of education, any irregularities in its execution were waived, and the contract became an enforceable one.—Macmillan Co. v. Marrs, 273 S. W. 794; Row, Peterson & Co. v. Marrs, 273 S. W. Reporter 795, Texas.

The action of the state board of education in establishing the identity and validity of contract for textbooks, legally made by the state textbook commission, and ordering its performance by the state superintendent of public instruction, under Vernon's Ann. Civ. St. Supp. 1922, arts. 2904½ and 2904¼, is final and conclusive, unless set aside under Vernon's Ann. Civ. St. Supp. 1918, art. 2909n, by proper judicial action, for sufficient legal reasons, and cannot thereafter be annulled or set aside by the board.—Laidlaw Bros. v. Marrs, 273 S. W. 789; Charles Scribner's Sons v. Marrs, 273 S. W. 793; W. H. Wheeler & Co. v. Marrs, 273 S. W. 793; Silver, Burdett & Co. v. Marrs, 273 S. W. 793; D. C. Heath & Co. v. Marrs, 273 S. W. 794; Johnson Publishing Co. v. Marrs, 273 S. W. Reporter 794, Texas.

A cost plus contract with the city for the erection of a school building, made in an effort to follow the Wisconsin Statutes of 1919, § 925-118a, is held to establish relationship of the

owner and the contractor rather than the principal and the agent, and therefore section 4549, prohibiting an agent of a city from having financial interest in a contract with it, was not applicable.—Baumann v. City of West Allis, 204 N. W. Reporter 907, Wisconsin.

The Wisconsin Statutes of 1919, § 925-118a, regulating municipal contracts for school buildings, held applicable to a city of the fourth class, organized under the general charter law, notwithstanding the section was not specifically adopted by the common council, as provided in section 926.—Baumann v. City of West Allis, 204 N. W. Reporter 907, Wisconsin.

A contract for services of an architect to prepare plans, drawings, and specifications, and in making preliminary studies for the erection of a schoolhouse, is for professional services within exemption from the requirement of the North Dakota Comp. Laws 1913, 1356, that contracts for expenditures of school funds shall be let only after advertising for proposals and to the lowest bidder.—Rosatti v. Common School Dist. No. 96, Cass County, 204 N. W. Reporter 833, North Dakota.

Under the Wisconsin Statutes of 1919, § 925-118a, preparation of plans and specifications, advertising for bids, and reception of bids for school building in fourth-class city should be done by the board of education, and not by a building committee composed of members of the common council and board of education.—Baumann v. City of West Allis, 204 N. W. Reporter 907, Wisconsin.

Where a city's contract for the erection of a school building on cost plus basis established the relationship of owner and contractor, a subsequent resolution of the city council, assented to by contractor and surety, and providing that thereafter the contractor should be the city's agent for completing work in accordance with the contract, is held not to change the character of the contract to disadvantage of the city; so as to affect third parties not agreeing to resolution.—Baumann v. City of West Allis, 204 N. W. Reporter 907, Wisconsin.

After repudiation by the contractor of the agreement to erect a school building on the cost plus basis, when the building had been 88 per cent completed, his discharge and the letting of the work was not wrongful.—Bau-

(Concluded on Page 132)

School Keeps (and costs money) Whether Pupils Come or Not

HAVE you ever figured out how much it costs to maintain your schools for pupils absent because of sickness?

It is difficult to get accurate figures, but in one community surveyed by the Public Health Service, it is estimated that in one school year it cost \$9,500 for the operation and maintenance of schools for children unable to attend because of illness.

Of this amount \$4,800 was chargeable to respiratory diseases alone which are practically eliminated by correct heating and ventilation. This sum, considerable as it is, does not include doctor bills paid by parents, nor does it include the cost to the community of pupils who, because of illness, have to repeat classes.

A System You Will Like

In your desire to secure the most efficient and economical system that will cut down this waste, you can see the value of ventilation and heat from equipment that will not rust, freeze or explode.

"The American System" ventilates and heats at the same time. Every eight minutes the classroom air is completely replaced by fresh outdoor air that has been warmed and humidified. The pupil in the corner seat is as comfortable as the pupil near the window. No one is in a draft. Lurking germs and dust never get a chance to attack tender throats. The

pupils do better work with far less time out because of sickness. And another unnecessary drain of money needed for constructive effort has been stopped.

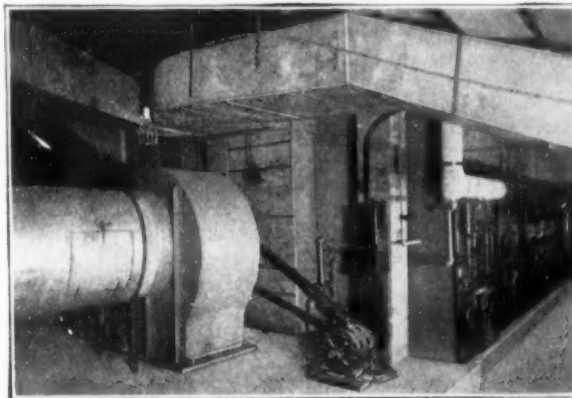
Burns Any Type Fuel

Any type of fuel or fuel oil may be burned in the Direct Transmission Heaters of "The American System." These are constructed exclusively of cast iron which will not rust and is many times as durable as steel under fire. There are no boilers, piping, radiators, etc., to freeze up overnight or Sunday. There is no confined steam to explode.

Plants of "The American System" installed over thirty-five years ago and used continuously are rendering efficient service today. One responsible company of forty years' standing, through its authorized representatives, engineers, installs and guarantees "The American System."

Make Arrangements This Summer

This is a good time for you to get information about this system and to make arrangements for installation. Whether or not you have the actual figures for your school, illness directly traceable to poor ventilation and heating is using the money that should be devoted to needed improvements. "The American System" will save this money for you.



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Palmer's Toilet Paper Fixture

Schools in many states have standardized on Palmer's Toilet Paper Fixture — likewise Palmer's Paper Towel Fixture, which is of the same efficient principle. Controls removal of sheets. Springs back into original position after paper is removed. No waste. No littering of floor. No disorderly streamer from roll. Self-locking, no tampering with or destruction possible. Very high grade in design, material, construction. Takes ANY standard roll paper: in which form toilet paper and towels cost less, per sheet, than in any other style of package. Send for sample or additional details.



Palmer Liquid Soap Tank System.

Most satisfactory, sanitary and economical soap service in School Wash Rooms containing two or more wash basins. Soap Valve service at each basin: as pictured. Can readily be installed in building already erected without defacing walls: as well as included in new building plans. Highly developed and perfectly practical in principle, material, construction, workmanship, finish AND SERVICE PERMANENCY. Write for fully descriptive literature.

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Palmer's No. 6 Liquid Soap Dispenser

Being installed by schools everywhere. So designed and constructed it cannot loosen from wall, will not leak under any condition, and equipped with lock to prevent tampering with soap. Operated by one hand, on plunger that extends the full length of the bracket to the wall—a straight line operation that insures permanent stability of the fixture. Valve a cleverly designed push-in type. No packing or gasket to be adjusted or replaced. Guaranteed for 5 years. Send for sample, or additional details.

TEACHERS AND ADMINISTRATION

SUBSTITUTE TEACHERS' PAY, DISTRICT OF COLUMBIA

At a recent meeting of the District of Columbia board of education, the following rates of pay for per diem teaching substitutes, effective December 3, 1925:

	Rate Per Diem
Class 1, Group A—Kindergartens and Elementary Schools, Basic Salary \$1,400.....	\$4.00
Class 2, Group A—Junior High Schools, Basic salary \$1,600.....	4.50
Class 2, Group C—Junior High Schools, Basic Salary \$1,800.....	5.00
Class 3, Group A—High and Normal Schools, Basic Salary \$1,800.....	5.00
Class 3, Group B—High and Normal Schools, Basic Salary \$2,000.....	5.00
Class 4, Group A—School Librarian, Basic Salary \$1,400.....	4.00
Class 5—Teaching principals, Four to Seven Rooms, Basic Salary \$2,300.....	4.00
Class 6—Teaching Principals, Eight to Fifteen Rooms, Basic Salary \$2,500.....	4.00

The matter of substitute pay and substitute service has long presented a problem in the administration of the schools of Washington, as well as in other cities. Since 1915, a series of conferences have been held on this subject by the school board and by the teachers' council, and several tentative schedules adopted. The present is largely a compromise between a desire to pay substitutes the highest rate possible in order that competent persons may be obtained, and the desire to take as little as necessary from the absent teacher as the pay of the substitute is deducted from the absentee.

In the District of Columbia two kinds of substitute teachers are employed—annual substitutes and temporary or per diem substitutes. The first are appointed under the provisions of an Act of Congress, which reads as follows:

Sec. 15. "That the Board of Education, on recommendation of the superintendent of schools, is hereby

authorized to appoint annual substitute teachers, who shall qualify for said positions by meeting such eligibility requirements as the said board may prescribe and who shall be assigned to the lowest class to which eligible for the type of work to be performed, but who shall not be entitled to the longevity allowance of said class: *Provided*, That the said board shall prescribe the amount to be deducted from the salary of any absent teacher for whom an annual substitute may perform service, and the amount so deducted shall revert to the Treasury of the United States in the same proportion as appropriations are made during the fiscal year for such absence and substitute service: *Provided further*, That the above authorization for the appointment of annual substitute teachers shall not be construed to prevent the Board of Education from the employment of other substitute teachers under regulations to be prescribed by the said Board."

The new schedule seems to be satisfactory to all concerned. Teachers absent from sickness or other causes will have deducted from their salaries the per diem rate for the actual number of days the substitute is paid. This leaves, however, a considerable portion of her salary. For instance, kindergartners and elementary school teachers receive a basic salary of \$1,400 a year, payable in ten payments at the rate of \$140 per month. If such a teacher is absent ten school days, her substitute receives \$40 and she has \$100 remaining for herself. If she is absent the maximum number of days (23) that it is possible for school to be in session in any one month, her substitute would receive \$92 or \$4 a day for 23 days. The regular teacher would have \$48 of her salary remaining. If the teacher were receiving the highest annual salary in elementary schools, \$2,200 per year, or \$220 per month, after paying a substitute \$40 for ten days or \$92 for the entire month, she would have respectively \$180 and \$128 remaining.

TEACHERS AND ADMINISTRATION

"Every public school official in Idaho stands ready to play his or her part in the advancement of community life," said State Superintendent Redfield recently. "I hope that the chamber of commerce enthusiasts will admit school officials to their councils."

—The salary committee of the New Britain, Conn., board of education to whom was referred the teachers' petition for a salary increase has denied the same. The committee feels that even with the most economical management, the growing needs of the schools require a very heavy demand upon the taxpayers and it would

be most inopportune to make such a radical increase in the cost of operation at this time.

—The Missouri State Teachers' Association will build a \$40,000 administration home. Two Missouri cities, Columbia and Jefferson, are competing for the honor of having the building within their walls.

—The charge is made in Boston, Massachusetts, that the male teachers of that city have been electioneering against certain candidates for the school board. The Boston Telegram says: "It appears that previous to the city election certain candidates were told flatly just what was going to happen to them because they had not been as generous in salary increases as some teachers believed they should have been. And other candidates, who promised much to the agitating teachers, were assured of cordial support. Surely the people do not want to tolerate school teachers who boldly go into politics and hold a club over the head of the people's representatives. These threatening teachers are not fit for their places. They believe the school committee was created to serve them. It was not. It was created to serve the people and sit in judgment upon the teachers. If certain school teachers many of whom do not vote in Boston and who do not intend to become residents of Boston can exert influence in Boston elections, the city might as well surrender its charter to the state. The school committee should scotch the protective organization of the men school teachers at once."

—Teaching is hard work. This is one of its attractions, for hard work is a privilege and a blessing. Without undue sentiment it may be said that teaching has many fascinating aspects. It invites to constant growth and improvement because its field is the realm of ideas and ideals," said the Desert News of Salt Lake City, Utah, recently in welcoming a teachers' convention. "It never becomes drudgery because each day is so broken by intermissions and so varied in program that it becomes a new and interesting adventure. The work of the teacher both for his pupils and for himself is as wide as civilization and each day opens a new field of absorbing interest."



ELECTRIC TIME AND PROGRAM CLOCK SYSTEMS

LANDIS ENG. AND MANFG. CO.

WAYNESBORO, PA., U. S. A.

Recommended by educational experts as indispensable to the orderly and systematic administration of schools. Saves time, insures uniformity and makes for efficiency. It is safe to say no investment is correspondingly more valuable to an educational institution than an up-to-date clock and program system.

CATALOG ON REQUEST



—Out of 46 persons who took the teachers' examination recently at Springfield, Illinois, 43 were women and three men. The Chicago Journal comments as follows: "There is no more honorable profession than that of training youth, nor one providing a more helpful experience to a young man who uses it merely as a bridge, but teaching in most country schools is not sufficiently enticing to most ambitious young men. When you see a male teacher of many years' experience in the country schools you see a man who has the missionary spirit and who is willing to sacrifice many things that he may have the satisfaction of serving well his state and the future. On the other hand, women, no less ambitious than men, are peculiarly suited to this calling. And they, more than men, are inclined to remain in the profession. This has an important bearing upon the employment of women, for school officials prefer to avoid a constant rotation of teachers."

—Lawrence, Mass. The school board has rescinded a rule that persons applying for teaching positions be required to pass examinations yearly, and that at the expiration of five years, unless appointed, they be dropped from the eligible list.

Under the new arrangement, instead of compiling a new list each year, the 1926 list will be permanent and any person who wins a place on the list, is certain of eventual appointment. The new rule provides that appointments shall be made from the top of the list, and as appointments are made, the names remaining on the list will be moved toward the top. The 1926 list will contain 25 names and each succeeding year will be supplemented and brought up to its original number by adding as many names as there have been appointments during the year.

—To insure strong and healthy teachers in the schools of Connecticut, applicants for admission to the normal schools are required by the state board of education to pass a physical examination, and such schools may exclude from attendance those who do not measure up to the required standard.

In addition, at the New Britain Normal School, each student shortly after entering is

given a thorough orthopedic and physical examination.

—Louisville, Ky. The teachers of the local teaching staff put on a theatrical production in November to raise a fund for the benefit of the new home for retired teachers. The production was under the direction of Miss Elise Wiebel, principal of one of the grade schools, who conceived the idea of a home for teachers, and who started the first fund for the purpose last year.

—Mr. H. K. Hamaley, superintendent of schools of Grandview, Wash., has been elected president of the Lower Valley Teachers' Association, to succeed A. O. Rader.

—In anticipation of the adoption of by-laws now pending before the board of education of New York City, the board of examiners has modified its replacement rules so as to establish fifty years as the maximum age at which a person who has resigned and applied for replacement may reenter the service.

Under the amended rules, the maximum age for any given individual is to be calculated by adding to the maximum age established in the by-laws for a new applicant for license, (usually forty years), the number of years of actual service under a regular license in the elementary schools, up to a maximum of ten years, the number of years of substitute service in the schools up to a maximum of seven years, and the number of years of service under a regular license outside of New York City up to a maximum of seven years. In no case may the maximum age limit for teachers be higher than fifty years.

—Notices have just been issued by the New York Board of Retirement that under the provisions of the new five-year pension law, teachers will have to pay a higher premium in order to obtain a half pay pension after 35 years of service. Rates of contribution for contributors desiring half-pay retirement must be increased, with the exception of those contractors who have had 35 years of service at the inception of the law, August 1, 1917.

The allowance for retirement is composed of the pension paid by the city, plus the annuity purchased by the teachers' contributions, so that a rate hitherto sufficient to build up the annuity reserve necessary to complete an allowance of

half the average salary of the last ten years of service is not sufficient to supply the larger reserve required for half the average salary of the last five years of service under the amendment.

Present teachers paying the minimum three per cent rate are still entitled to that rate if they desire to continue it, but this rate did not provide full half-pay retirement on the ten-year average and necessarily will provide still less than half on the five-year basis.

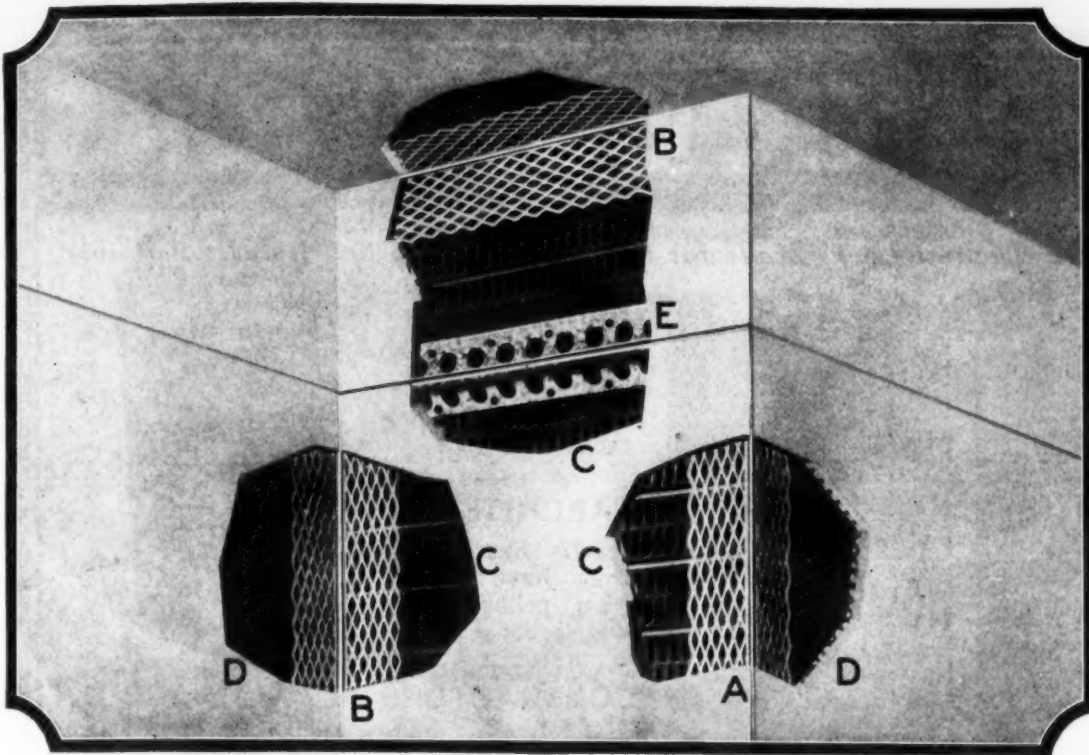
PROFESSIONAL STANDING OF NORTH CAROLINA TEACHERS

—The State Department of Public Instruction of North Carolina has issued a report dealing with non-standard teachers, white and colored, employed last year, a summary showing rural and city, white and colored non-standard teachers employed last year. In considering the number of non-standard white teachers employed in each of the three years—1923, 1924, 1925, the first and most striking fact is the steady reduction in the number of poorly educated teachers. In 1924-1925 there were 1,720 of these non-standard teachers, a reduction of 561, or about 25 per cent below the number employed in the previous year. If this rate of decrease should be maintained, there will be no non-standard white teachers employed four years hence.

Another striking fact brought out by the study is that the number of teachers holding these low certificates has decreased from 1923 to 1925, except in the case of the temporary certificate where there has been an increase of 95. The number of teachers has been decreased by 925. In the case of colored teachers holding the non-standard certificates there has been a small reduction in number. There has been considerable raising of certificates from lower classes to higher classes within the non-standard group, but there were only 30 fewer non-standard colored teachers in 1924-1925 than in 1923-1924.

It is further noted that the non-standard white teachers comprised 16.72 per cent of all white teachers in 1922-1923, while in 1924-1925 they were but 10.15 per cent of the total. The colored teachers in 1922-1923 were 49.18 per

(Concluded on Page 138)



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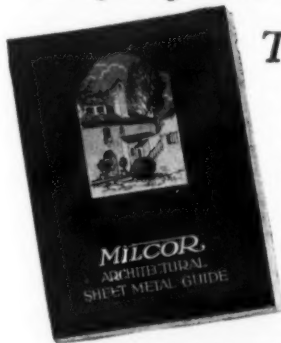
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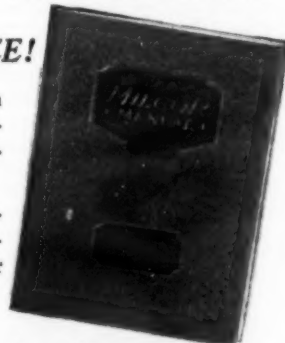
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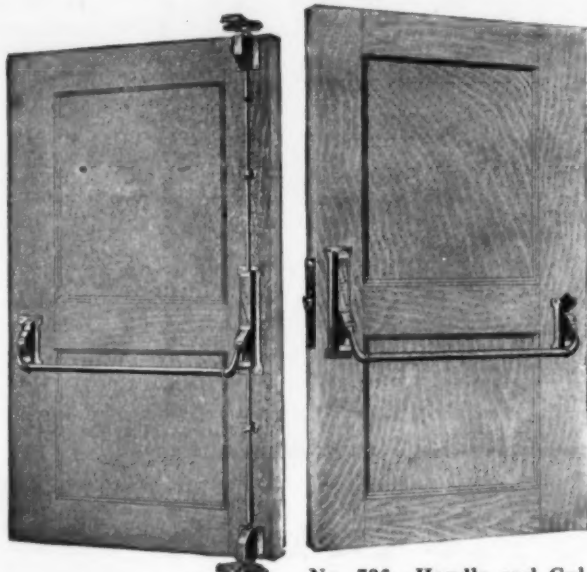
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The Steffens-Amberg Co.
Newark, New Jersey

(Concluded from Page 136)

cent of the total colored teachers, while in 1924-1925, they had decreased so in number that they represented but 43.27 per cent.

There were 1,720 non-standard white teachers employed last year. In 1923-1924 the average number of elementary white children per teacher was 35.1. If this proportion was maintained, then the non-standard white teachers taught 60,372 children last year. This number represents one-eighth of all the elementary white children.

In the white city schools last year, 67 non-standard teachers were each instructing 37.1 elementary children. This estimate shows that 2,486 city white children representing 2.38 per cent of the whole number of elementary children were instructed by non-standard teachers. From these figures it is revealed that for every white city child taught by non-standard teachers there were more than five white rural children so taught.

There were last year 114 non-standard teachers in city schools. In 1924, each elementary city colored teacher taught an average of 50 children. This shows that approximately 5,700 colored children in the city schools were taught by non-standard teachers. This indicates that 10.7 per cent of all colored elementary children in the city schools were taught by non-standard teachers.

COMPENSATION DURING ABSENCES

—Philadelphia, Pa. The school board has revised its rules pertaining to absences of teachers and payment for such absence. The revised rule reads as follows:

"Section 4. For absence due to the death of the husband, wife, son, daughter, father, mother, brother, sister, grandfather or grandmother of the absentee, or by the death of an uncle, aunt, nephew, niece or first cousin whose actual place of residence at the time of death is also the residence of the absentee, said facts to be duly certified by the physician in attendance during the last illness of the decedent or otherwise proved, the applicant may be relieved from loss of salary for a period not exceeding five (5) consecutive days, including the date of death and including Saturday and Sunday if they fall within such period; in case the funeral should

take place after the expiration of this five-day period, the absent teacher may, in addition, be relieved from loss of salary for the day of the funeral, provided that absence in excess of the time so stated, but not in excess of five additional school days, caused by a delayed funeral, shall be subject to a deduction of one-fortieth ($\frac{1}{40}$) of the monthly salary for each school day's absence.

"For absence not exceeding one school day due to attendance at the funeral of any relative where relief from loss of salary is not provided for, there shall be a deduction at the rate of one-fortieth ($\frac{1}{40}$) of the monthly salary."

Similar rules have also been adopted governing absences of engineers, firemen, janitors, cleaners, and watchmen. They read as follows:

Section 12. Engineers, firemen, janitors, cleaners, and watchmen shall not absent themselves from duty without securing a leave of absence from the Superintendent of Buildings. Such leave must be secured before the absence occurs, unless the circumstances are such as to render advance approval impossible. For all absence there shall be a full deduction of salary, except in those cases for which special provision is hereinafter made.

Section 13. Leave of absence for 15 consecutive days may be granted between July 1st and August 31st of each year, provided the applicant furnishes, at his own expense, a competent person to be in charge of the building continuously between the hours of 8:00 A. M. and 5:00 P. M. every working day during the absence, such person to be approved by the Superintendent of Buildings.

Section 14. For absence due to personal illness there shall be a deduction of $\frac{1}{30}$ th of the monthly salary for each of the first three days, and $\frac{1}{60}$ th of the monthly salary for each day thereafter. If said absence exceeds three consecutive days, the application must be accompanied by a physician's certificate, stating the nature of the illness, and must not extend beyond thirty consecutive days, unless authorized by the board; provided, however, that leave shall not extend beyond one year.

Section 15. For absence due to the death of the husband, wife, son, daughter, father, mother, brother, sister, grandfather, or grandmother of

the absentee, or by the death of an uncle, aunt, nephew, niece, or first cousin, whose actual place of residence at the time of death is also the residence of the absentee, said facts to be duly certified by the physician in attendance during the last illness of the decedent or otherwise proved, the applicant may be relieved from loss of salary for a period not exceeding five (5) consecutive days, including the date of death and including Saturday and Sunday if they fall within such period; in case the funeral should take place after the expiration of this five-day period, the applicant may in addition be relieved from loss of salary for the day of the funeral; provided that absence in excess of the time so stated, but not in excess of five additional days, caused by a delayed funeral, shall be subject to a deduction of $\frac{1}{60}$ th of the monthly salary for each day's absence. For absence not exceeding one day, due to attendance at the funeral of any relative where relief from loss of salary is not provided for, there shall be a deduction at the rate of $\frac{1}{60}$ th of the monthly salary.

Section 16. For absence due to religious holidays there shall be a deduction of $\frac{1}{45}$ th of the monthly salary for each day's absence.

For absence not exceeding five days in any year, due to causes not specified in this rule, but of such nature as to warrant partial relief from loss of salary, there shall be a deduction of $\frac{1}{45}$ th from the monthly salary for each such day's absence.

For absence due to quarantine or subpoena to court, when properly certified, there shall be no deduction.

Section 17. The Superintendent of Buildings shall have the power to grant leave of absence without loss of salary to applicants for school business, subject to such conditions as he may consider advisable.

Section 18. In computing deductions of salary, the monthly personal salary, as authorized by the Board, shall be the basis for calculation of deductions.

Section 19. In computing deductions in salary, any absence shall be counted as not less than one-half day. Saturdays, Sundays, and holidays shall be included in the deductions.

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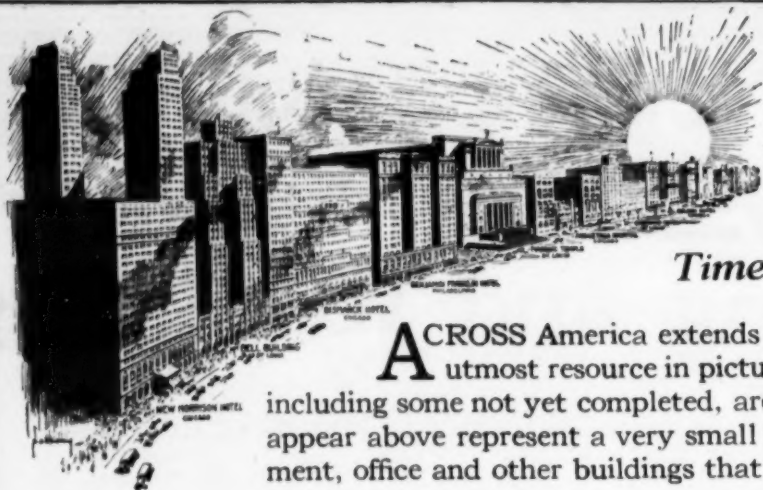
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ARTHUR L. PILLSBURY MEETS TRAGIC DEATH

Arthur L. Pillsbury, widely known as a school architect of standing and long a member of the community at Bloomington, Ill., died on Saturday, October 24th, as the result of an automobile accident, which occurred on the return trip from a football game at Champaign. Mr. Pillsbury was one of a party of seven in the car, all of whom were more or less bruised and injured.

Arthur Pillsbury was born at Normal, Illinois, in November, 1869, and received his education at Normal. With the removal of the family to Urbana, he was enrolled at Harvard College, from which he was graduated in 1892, then going to the University of Illinois for professional study, where he was graduated in 1895.

After graduating in architecture, Mr. Pillsbury formed a partnership with Herman Evans of Bloomington, and this continued until the death of the latter two years later. Since that time, Mr. Pillsbury had carried on operations with a group of young men, building up a large architectural business which had expanded with the passing years.

Mr. Pillsbury was an ideal architect, conscientious to an extreme, and insisting that his clients be given value received. Not only was he talented in his chosen profession, but he was a successful business man of unusual executive ability, enjoying the loyalty, cooperation and esteem of all his employees. The numerous splendid school and business buildings in Bloomington and many other points in Illinois and even in Missouri, the plans for which were prepared by Mr. Pillsbury and carried on under his direction, are monuments to his ability and achievements as a designer.

Mr. Pillsbury had the mind and the heart of an artist. He was a constant student and put into his residences and public buildings the result of his study and research. Modern to a degree in his work, he did not forget to play occasionally, and his attendance at various outdoor pastimes furnished diversion which kept up his physical condition, and which proved to be a continuance of the athletic training received at college.

Mr. Pillsbury is survived by his widow and one daughter, Miss Frances Pillsbury, and three brothers.

TESTS FOR SOUNDPROOF WALLS

—The United States Bureau of Standards has recently conducted experiments with soundproof walls, using the materials of lime, gypsum plaster, etc., in tests for sound. The work was done in cooperation with national building associations and is expected to yield valuable results in improved construction methods.

The bureau's investigation of the durability of plaster shows that the material itself may not be defective, but that it may not be handled properly, because workmen do not understand the variations in quality that may occur.

Similar experiments were made with glass. More than 5,000 samples of glazing glass have been tested at the laboratory, the results of which are made available to manufacturers to enable them to turn out better products.

A series of tests on slabs of hollow tile having reinforced concrete ribs indicated that the bond between the concrete and the tiles was sufficient to cause the tiles to assist materially in taking both bonding and shearing stresses. When medium or hard tiles are used it was found that the shells of the tiles in contact with the concrete were as effective as an equal width of concrete.

The bureau also made a field test in connection with two major building operations to establish a means of introducing some of the improvements in concrete making that various investigations had indicated as desirable. The investigation gave interesting results as to the quality of concrete made on these jobs.

Other tests dealt with the workability of concrete mixtures and colorless waterproofing materials. These show that the workability of a concrete mixture is equally benefited by one part of celite, two parts of kaolin, and three parts of hydrated lime. Materials that utilize paraffin, aluminum stearate, or mixtures of paraffin with china-wood oil, were found to give good waterproofing values when properly applied.

THE VENTILATION OF SCHOOL BUSES

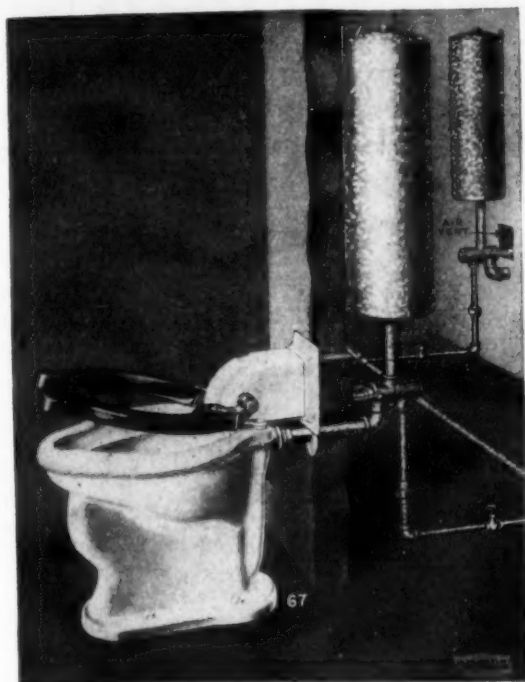
This is the season of the year when it is imperative to consider the ventilating features of vehicles, especially those carrying school children. How do school buses rank with those of the most successful transportation companies? Generally speaking, it will be found very low as the percentage of school buses compared with passenger buses which have good ventilating facilities, is very small.

The ideal conditions for good ventilation are that during the severest weather a constant change of air is insured, sufficient to provide at least fifteen changes per hour, without materially affecting the temperature. During ordinary weather, it is possible to enjoy the same temperature within a vehicle as without, minus the winds or drafts that open windows produce, giving the children the benefits of a healthful and pleasant ride. These conditions are readily obtained by selecting the proper appliances, bearing in mind that efficient methods cost no more than inefficient makeshifts.

A few years ago a concern seeking to bring about better ventilation would be termed a fadist. Today, leaders in body building in the construction of school buses seek and obtain advice as to the need and the best methods for them to employ. Many of the large operators of school buses ask for advice for improving their conditions, thus recognizing that ventilation is not a mere fad but a condition to be met and one requiring their best support in school bus operation. Some of the advantages of good ventilators are: They endure, barring accident, during the life of the body; the operating cost is very low and there is practically no maintenance cost; they are always an asset and the best models function 365 days in the year so that the service is obtained at an extremely low per diem cost.

—Mr. M. L. Lowery, principal of the senior high school of New Brunswick, N. J., has been appointed county superintendent of schools of Middlesex County. The appointment became effective January first. Mr. Lowery is a graduate of Dennison University and holds several scholarships in education given by universities of the east.

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Bowlus Closet Combination No. 57 seat operating, supplied with Jewel valve, extra heavy vitreous china jet bowl with extended front lip. Golden oak open front seat, with three-quarter round reinforcing rings. Top box hinge and bronzed compression tank. Roughing-in measurement 13 1/2 inches.

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INTERESTING FACTS CONCERNING THE SECONDARY SCHOOLS OF NEW HAMPSHIRE

The relation of high school enrollment to total grade enrollment, and changes in teaching staffs in the New Hampshire secondary schools during the period 1924 to 1925, are some of the interesting facts revealed in a recent study of secondary schools of the state conducted by the state education department under the direction of Mr. Walter M. Mag, deputy commissioner of education.

In 1915-1916 the total enrollment in all high schools was 10,535 with a daily attendance of 95 per cent and a daily tardiness of 2.1 per cent. In 1924-1925 the total enrollment had risen to 17,321 and the daily average attendance was improved by 0.5 per cent, while the tardiness dropped to 0.9 per cent. The enrollment of boys during the past nine years has grown from 45 per cent of the total to 48.6 per cent. The high schools in 1916-1917 received 39 per cent of the eighth grade graduates; in 1924-1925 they received 48 per cent.

The report gives the relative position of 68 secondary schools on the basis of total enrollment in the high school and in grades one to twelve. The procedure followed in determining the rating is as follows: The high school enrollment was divided by the total district enrollment to find the percentage of pupils in the high school. In a six-year high school, the percentage, theoretically, should be 50, while in a four-year high school, the theoretical percentage would be 33.3. The actual percentage of pupils in high schools was compared with the theoretical percentage to secure the final rating.

As an example, consider the following: The total enrollment for the Madison school, a four-year school during the year, was 141. The high school enrollment was 48, or 34 per cent of 141. The theoretical percentage is 33.3, so that the final rating is found by subtracting the theoretical percentage from the actual percentage, and the result is +0.7. On this basis, the highest ratings were attained by Hanover with a +4.1 per cent rating; Colebrook, with +1.3 per cent; Goffstown, with +0.8 per cent; Madison, with 0.7 per cent, and Lancaster, with +0.5 per cent.

Another section of the report discusses changes in the teaching force in New Hamp-

shire secondary schools. The report shows that no changes in staff occurred during the period from September, 1924, to June, 1925, in 96 of the 123 secondary schools under a headmaster or principal. This means that in 78 per cent of the high schools, there were no changes in the teaching staff during the last year; this record is better than that of 1923-1924 when in 76 per cent of the high schools, there were no withdrawals and no replacements. Among these are Walpole, Rochester, Marlboro, Madison, Keene, Gorham, Concord, Claremont, Durham and Amherst.

HYGIENE AND SANITATION

—Willis A. Sutton, superintendent of the Atlanta, Georgia, schools recently delivered a lecture in Denver, Colorado, on dental care in the schools. Mr. Sutton holds that many of the faults of school children can be attributed to bad teeth.

—The American Heart Association, located at 370 Seventh Ave., New York City, has developed as an outgrowth of the widespread movement for the prevention and improved care of heart disease in scattered centers throughout the United States.

The Association has issued a special four-page pamphlet dealing with heart disease in school life. It is brought out that the school years offer a unique period for the prevention of cardiac disease and an unusual opportunity for limiting the progress of damage already established. It is suggested that every child with suspected or definite disease of the heart be carefully studied with a view of correction of nutritional defects, bad teeth, diseased tonsils, and adenoids. In addition, it is urged that the school physician keep the school informed as to the necessary restrictions required by the child's condition, that there be continued medical supervision after return to home and school, and that there be active cooperation between the parents, the family physician and the teacher.

—At Terre Haute, Indiana, Supt. J. B. Engleman is urging medical examination in the schools. The Tribune of that city makes the following comment: Nowadays sound health is the first consideration, and the parent looks with favor on the public effort to protect and develop the good health and strength of the

school population. Life grows more complex, the survival of the fittest demands primarily a fit mind and body and good health is the fundamental thing involved. Public attention to health problems proved that the schools, with their intermittent epidemics of measles, scarlet fever, diphtheria, mumps and the like, constituted one of the gravest subjects for study. Now further advances have been made along the line of preventative methods and good eyes, sound teeth, and other considerations are deemed highly important in the modern adjustments to prepare for life's battle."

—New Jersey's Bureau of Tuberculosis has established twelve monthly clinics where diagnoses of disease may be made. It has assisted school inspectors in the examination of children, especially those twenty per cent or more underweight of their age and height.

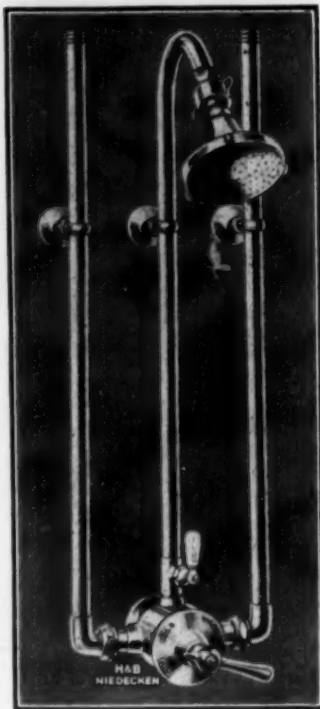
—Young children should be permitted to read only large print. All books should be printed on white or slightly creamy, dull surface, opaque paper, says Dr. Thomas D. Wood and Marion O. Lerrigo, writing on the school child's health in Hygeia.

Children in the kindergarten and lower grades should write with crayons or large, soft lead pencils. Writing on the blackboard is preferable for children. The young child does not have sufficient nervous control of his muscles to enable him to hold a pencil of ordinary size and make the movements required in writing. The strain of learning to write should not be increased by the needless difficulty of using inappropriate tools.

None of the handwork done by children should involve the use of fine or delicate tools. Fine sewing strains both eye and finger muscles, and is unsuitable for young children.

—Dallas, Tex. Physical examinations of pupils in the schools have been conducted under the direction of Dr. Elliott Mendenhall, director of the health staff. Dr. Marion F. Webster has been named dentist for the school health department, and Miss Carrie Ingram has been made school nurse.

—New Bedford, Mass. The city solicitor has rendered a decision on the length of time a physician's certificate for an unvaccinated child is valid. He refers to the school law on the



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MAKERS OF WATER DEVICES SINCE 1853

subject which requires that every pupil in attendance, who is given a certificate of exemption by a physician, shall be required to renew such certificate once in two months. It is provided that a pupil who fails to renew the certificate as required will not be excluded from school until a period of two weeks after failure to renew such certificate.

—Minneapolis, Minn. The school board has adopted rules governing the conduct of the dental clinic. The rules read as follows:

1. No child from families where the income per person is six dollars a week or more, may be received in the dental clinic.

2. Only persons who are indigent and cannot afford to pay a small charge, shall be allowed free service in the clinic.

3. Between these two classes, a small charge will be made for all persons served in the clinic. These charges will be ten cents for entrance to the clinic, ten cents for cleaning, and twenty cents per sitting.

—A report of the medical inspection bureau of the New York State Education Department shows that full-time medical inspectors are employed in eighteen cities and villages of the state. State aid amounting to \$1,000 is given to communities employing full-time medical inspectors.

REPORT OF COMMITTEE ON SIGHT OF SCHOOL CHILDREN

A recent report has been made by a joint committee of the American Medical Association and the National Education Association, in cooperation with the National Committee for the Prevention of Blindness, on "Conserving the Sight of School Children." The committee studied the practices followed in public schools in caring for the eyesight needs of school children, covering 375 cities, also rural districts in every state, and was assisted by 100 ophthalmologists and by health officials and school authorities. It was found that 3,000,000 school children in this country are handicapped by defective sight and that only half of the total school population of 24,000,000 have their eyes examined and vision tested while attending school. The rural districts generally report a larger percentage of defective vision than the

cities. It seems likely, the report adds, that this is due to such differing factors as conditions under which the test results were obtained, bad illumination in rural homes and schools, and the small number of corrections provided for rural children. The report summarizes the extent of defective vision in schools and the practices used in conserving the eyesight, and gives information for the teacher, the school nurse, and the school physician in the conservation of vision. The committee was at work more than a year under the chairmanship of Dr. Thomas D. Wood, professor of physical education, Columbia University, New York; a uniform law for the examination of the eyes of school children should be adopted by all cities and states, according to the committee.

Diseases of Teeth Common Among School Children

Dr. Russell W. Bunting, of the University of Michigan, writing on "The Health of the Mouth," in the October number of Public Health, discusses diseases of the teeth among school children. Dr. Bunting points out that surveys made of the teeth of school children in various parts of the country have revealed that from 75 per cent to 95 per cent are suffering from tooth decay, abscessed teeth, or mouth infections. On an average, each child has seven decayed teeth.

As a result of these dental defects, Dr. Bunting says, large numbers of children are afflicted with aching teeth and infections which seriously disturb their health and handicap their progress in schools. Of all the physical defects found in school children, diseases of the teeth are by far the most common and frequently exceed in number all others combined.

So great has the problem of dental disease among school children become that in all parts of the country public health authorities, boards of education, and public spirited citizens are viewing the situation with concern and are seeking to devise ways of treating it as a public health measure. School conditions are being studied and people are being informed of the need of dental care for children. The teeth of school children are examined periodically and reports sent to the parents informing them of the condition of the mouths of their children.

PERSONAL NEWS OF SUPERINTENDENTS

—Mr. W. W. Ankenbrand, of Pleasantville, O., has been released from his contract, to permit him to accept a position on the faculty of the Eastern Illinois Teachers' College. Mr. Ankenbrand has been succeeded by Mr. R. M. Eymann, for three years principal of the Pleasantville high school.

—Supt. Henry B. Howell of Phillipsburg, N. J., has announced his resignation, to take effect at the close of the present school year.

—Mr. O. L. McIntire, of Salem, Ore., has been appointed superintendent of the Iowa School for the Deaf at Council Bluffs.

—A high tribute is paid Dr. William J. O'Shea, superintendent of the New York Schools, by a local publication called "School". It says: "Dr. O'Shea is a man who works much and talks little. He is the best type of executive, using gentleness when it can be used, but always having a strong reserve strength that he can exert when necessary. His school policy has been most intelligent, he has succeeded in bringing about harmonious relations in the department of education that were sadly lacking prior to his election to office, and the schools are succeeding under his leadership in solving many difficult problems."

—Julius E. Warren of Gloverville, N. Y., has been appointed assistant superintendent of schools at Springfield, Massachusetts.

—Dr. Myron J. Michael, superintendent of schools at Kingston, N. Y., has been in school work for fifty years. He has held his present position for fifteen years.

—KANSAS. E. A. Elliott goes as superintendent from Fredonia to Cameron, Mo.; M. F. Stark, superintendent has changed from Coldwater to Greensburg; W. W. Bass, high school principal goes from Chanute to Coffeyville.

—Dr. David E. Weglein, assistant superintendent, has been appointed to succeed Henry S. West as superintendent of the Baltimore, Maryland, schools. The superintendent's salary has been increased from \$8,000 to \$10,000.

—John T. Kaemmerlin succeeds L. O. Markham as superintendent of the Haverstraw, N. Y., schools.

—Charles A. Howard and F. J. Tooge are candidates for the Republican nomination for state superintendent of Oregon.

—S. W. Andrews is serving his eighteenth year as superintendent of schools at Walsenburg, Colorado. During this period he has introduced many progressive features in the school system.

—Sam R. Hill has been chosen principal of the new South high school at Denver, Colorado. Mr. Hill has been connected with the Denver schools since 1915. Before coming to Denver he taught school in Wyoming.

—Miss Mamie B. Lang who served as superintendent of Tehama County, Calif., has resigned to accept the position of state commissioner of elementary schools. Paul D. Henderson of Molinos succeeds Miss Lang as county superintendent.

—Mr. John W. Dodd has been named superintendent of schools at Freeport, N. Y., to succeed George F. DuBois. Mr. Dodd was formerly principal of the high school, and had been acting superintendent since the opening of the school year.

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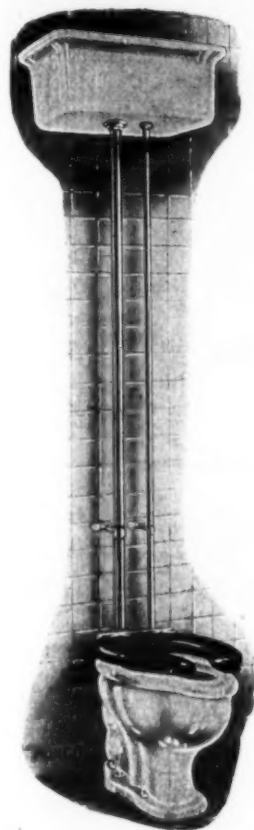
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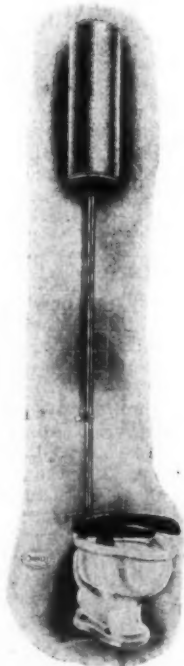
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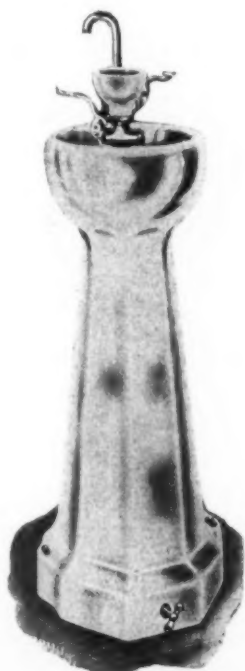
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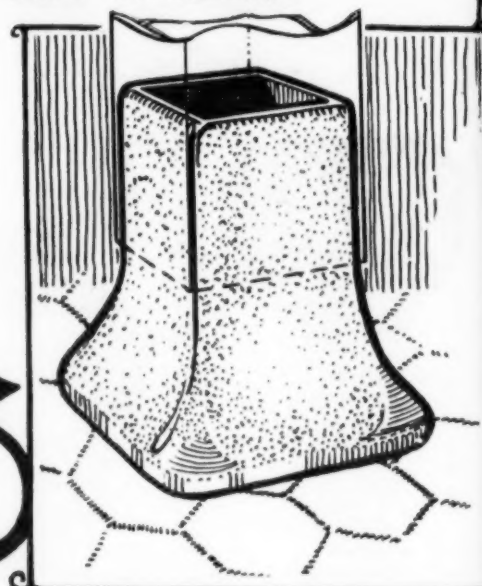
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NEW PORTLAND SCALE

A new salary schedule for school teachers of Portland, Ore., contemplated at the last school election when \$345,000 were voted for increases in salaries, has been submitted to the school board by a special committee. It is expected that this or some other plan for the adjustment of salaries will be in effect on January first.

In the preparation of the schedule, officers and members of the various bodies were consulted and their views sought and carefully weighed in making a schedule which should provide equal pay for equal training and experience, with a fair differential for those holding positions of increased responsibility and authority.

Salaries at present are determined in some degree, at least, by the grade taught, and also according to years of experience in teaching. The proposed schedule is based upon training and experience, and would give to instructors with less than a bachelor's degree and with two to three years of experience, \$1,300. The salary would increase as the years of experience increased until at the end of fourteen years the salary would be \$2,175. To the teacher with a bachelor's degree, the salary would be \$1,600 for two or three years' experience, and for fourteen years' experience it would be \$3,375. An instructor with a master's degree with two or three years' experience would receive \$1,700 and \$2,475 after fourteen years of teaching.

It is estimated that the total increase in salaries for the teaching and supervising staffs will amount to \$31,000, and the grand total of the increase would come to \$338,875.

CHICAGO CORRESPONDENCE

Col. Edward B. Ellicott, president of the school board, has reported that enough has been saved out of the last 22 schools constructed to erect an additional school. The exact amount saved out of the various appropriations is \$569,000. This was replaced in the building fund. Heretofore, instead of salvage, there have usually been "extras" of from \$5,000 to \$20,000 per building. This is just one of many economies being effected by the authorities.

By a vote of eight to one, the school board has adopted a new rule providing for compulsory retirement of members of the educational department upon reaching the age of 70. The rule as adopted December 9th, becomes effective in February, 1926.

Each person transferred to emeritus service will be paid annually during the continuance of such service a sum equal to one-half of the average annual salary received during the ten years preceding his transfer to emeritus service, but no person so transferred will receive annually less than \$1,500 nor more than \$2,500.

The secretary of the Finance Committee has showed that it will cost the school board about \$75,000 extra during 1926 to put this rule into operation, and thereafter it will cost about \$25,000 a year more than now. His figures were explained as follows:

A teacher who is retired is now drawing the maximum salary of \$2,500; a \$1,500 teacher—one on the minimum—takes her place; this is a saving of \$1,000. Since the annuity will be \$1,500, there is a net cost of only \$500 per elementary teacher retired. The same plan operates for principals retired.

Of the present teaching force, there are 93 teachers and principals who will be retired in 1926. The following table shows their ages:

Age	No. of Principals	No. of School Teachers	No. of Elementary Teachers	Years of Life Expectancy
83	2	..	..	3.39
82	0	..	..	3.71
81	0	..	..	4.05
80	0	..	..	4.39
79	2	..	..	4.78
78	1	..	..	5.11
77	1	..	..	5.49
76	3	1	1	5.88
75	1	1	1	6.27
74	3	1	3	6.68
73	3	1	5	7.11
72	2	3	3	7.55
71	2	0	9	8.0
70	7	2	15	8.5
69	4	2	14	..
	31	11	51	..

Six of the principals are high school principals.

The rule was subjected to one amendment, namely, to the effect that no one may receive the benefits of the annuity who has not served for twenty consecutive years prior to retirement.

Under the law, the board may not pay annuities to persons not in the board employ, so the emeritus service was created to satisfy legal obstacles. At least two board members announced that they are for the rule, but only because they expect to go before the Illinois legislature at its next session and secure an

adequate pension system in place of this rule. Apparently one reason why the rule was adopted just at this time instead of waiting was the desire to remove a member of the board of examiners reputed to be 74 years of age, a persona non grata to the board members but vigorously supported by Superintendent McAndrew.

According to an editorial in the Chicago Tribune the Chicago schools are getting out of the woods. In the last three years the seat shortage has been reduced from 70,000 to 48,000 seats, this despite an increased enrollment of 32,000 pupils. By the end of 1926, it is promised, the shortage will be reduced by another 18,000 seats. Twenty-five schools have been constructed since 1923, and 28 more are on their way toward completion.

The Chicago school board has asked the city council to place on the ballot at the time of the April, 1926, primary election a proposition to raise the educational tax fund levy rate from \$1.92 per \$100 of assessed valuation to \$2.92. Almost all Illinois cities have already availed themselves of the extra tax rate permissible under the law if the voters assent, and Chicago should have done so long since, for the annual expenditures have exceeded the annual revenues by about \$3,000,000 for seven or eight years. A floating indebtedness amounting to over \$20,000,000 in outstanding anticipation warrants has been amassed.

Recently there have been several occasions wherein school people have got into the newspapers more or less unfavorably. Perhaps they inspired the following bulletin:

To the Principals of all Schools: Conventionalities, libel, obscene pictures: The reputation of our profession is so great a concern to you, it has been guarded so well, as to be a frequent theme of commendation by citizens. As a help to your occasional expressions on good usage I quote from the Journal of Education. "Schools are singularly subject to damage from gossip. A parent or a pupil with a grievance because of low marks or non-promotion will sometimes spread allegations of immorality regarding a school. If we disregard conventionalities we give these gossipmongers a foundation to build on. However cordial or informal teachers may choose to be, however sure of their motives,

(Concluded on Page 148)

WATER WASTED IS MONEY LOST

—HAAS EQUIPMENT IS A DOUBLE SAVING



PLATE 200

Universal Seat Action

Siphon action wash down bowl, two piece oak seat with malleable galvanized hinge and "Haas" Universal Seat Action Valve. Metal parts in rough nickel or polished nickel plate.

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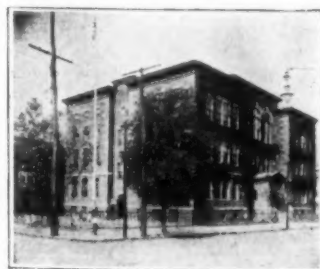
PLATE 205

Universal Seat Action

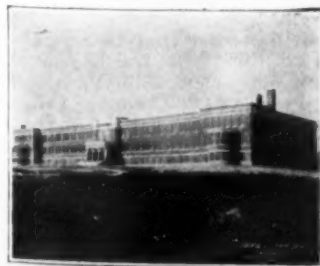
Siphon jet bowl, two piece oak seat with galvanized hinge and "Haas" Universal Seat Action Valve with angle compression stop in rough nickel finish—polished nickel plate if desired.



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(Concluded from Page 146)

some of them need to be reminded that they risk injuring not only their own reputation but that of the whole professional group. There is a golden mean between preposterous reserve and reprehensive familiarity. The right sort of man does not detain individual girls in his classroom; he does not, even to correct posture, put his hand upon them, nor have them lingering about him. He is more reserved toward girl pupils than it is necessary for women teachers to be. However commendable it may seem to a man in school to appear like a father or big brother to the girls, the fact remains they are not his daughters nor his sisters. Even the man teacher who has daughters of his own does not escape the serpent's tongue, if he fails to observe the conventions toward other men's daughters. Let him leave the daughter and the sister business with pupils to the women teachers. You will do well, too, to remind the women of the desirable conventions toward boy pupils. The rarity of occasions of reprimand for such offenses is notable. To mention the whole matter is no reflection on anybody. It is a plain duty of every head of a school to have a plain, business-like appreciation in all his school family that the reputation of our schools is a very sacred thing to parents. No school term should pass without full understanding that in this respect a school must be like Caesar's wife." Since September a number of citizens have reported that obscene print and pictures are rented by school children from nearby stationery stores and circulated among pupils. But the informants can't name the school nor the renters. I can only pass it on to you as a general statement and a request for continued vigilance. If ever you discover perpetration of such an outrage, the board will do its utmost to have the guilty persons punished. We all believe that a parent is entitled to feel that in sending his children to our schools he is sending them into a carefully guarded society managed by men and women above the average. That the exceptions are so few as to shock the ordinary citizen when they are known is to your credit and is an incentive to spare no pains to safeguard each his own school.

WM. McANDREW,
Superintendent of Schools.

The superintendent of schools has recommended to the board of education the employ-

ment of deans of boys for thirteen of the Chicago high schools having enrollments of 1,000 or more boys. Four reasons are put forth in support of the request, namely:

1. The problems of adolescent boys are serious. The aid of sympathetic men with ripe judgment, high principles, a knowledge of the world, and experience with youth is helpful in the solution of these problems.
2. A need is felt for special supervision of boys in civic and social groups in activities outside of the ordinary school work.
3. The counselling of boys on scholastic difficulties and ambitions requires the judgment of a man who is informed on high school and college courses and standards.
4. The economic problems of youth may often be simplified by the viewpoint of a man of experience and insight.

In last month's issue of the American School Board Journal there was printed a teacher-rating appraisal blank for Chicago principals to use in rating their teachers. Since then the superintendent has devised a detailed blank form for analyzing the strengths and weaknesses of the principals. This blank, if officially adopted, will be used by district superintendents.

APPRAISAL OF PRINCIPAL'S SERVICE

1. **Professional Standing**
 - a. Professional standing and growth as shown by the use of the best methods in the management of his school. TOTAL 0 to 10.
2. **Administration**
 - a. Organization of school.
 - b. Performance of executive and administrative duties.
 - c. Successful unifying and rendering efficient the work of the teachers.
 - d. Knowledge and use of official recommendations for increasing efficiency.
 - e. Success in placing responsibility.
 - f. Economy.
 - g. Promptness and accuracy in reports.
 - h. Other evidence of efficient service.
 - i. Success in providing and using educational equipment.
 - j. Care of buildings and grounds, as repairs, cleanliness. TOTAL 0 to 30.
3. **Supervision**
 - a. Evidence of beneficial influence on the methods of teaching.
 - b. Evidence of effective instruction secured by the principal.
 - c. Success in giving model lessons.
 - d. Success in increasing the number of pupils brought to the ability requisite for promotion to

- e. Success in testing and improving work.
- f. Efficiency in judging teaching.
- g. Efficiency in training teachers.
- h. Efficiency in interesting teachers in educational problems.
- i. Efficiency in realizing educational aims. TOTAL 0 to 45.

4. **Leadership**
 - a. Spirit, initiative and cooperation of teachers.
 - b. Securing in pupils correct standards of citizenship.
 - c. Tact and courtesy in dealing with pupils, parents and teachers. TOTAL 0 to 15.

FULL TOTAL

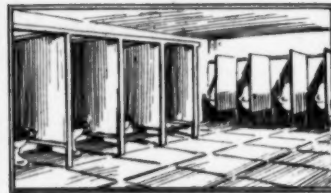
96 to 100 is superior; 90 to 95, excellent; 80 to 89, satisfactory; 75 to 79, unsatisfactory; 0 to 74, inefficient.

The corporation counsel of the city has ruled that civil service employees working for the city must live within the city limits in order to retain their positions. The question was raised whether this same ruling did not apply to civil service employees of the school board. The matter was referred to the school board attorney, former Judge Frank S. Righeimer, who has ruled that neither teachers nor other school board employees are affected by the city ruling, and they may live in the neighboring suburbs if they choose.

This year will mark the greatest progress ever made by a Chicago board of education in reducing seat shortage. By December 15th, 18,000 seats will have been added during the year, a total four times greater than that of the past four years. Nineteen new schools will have been opened by the end of the year, as against an average of eight for the preceding ten years. By the end of this year \$32,000,000 will have been spent for new school buildings, as compared to an average of \$4,000,000 annually for the previous ten years.

—Helena, Ark. The school board has taken the legal steps toward the floating of a bond issue of \$50,000 for the erection of a colored high school. Helena maintains one of three public grade A high schools for colored students in Arkansas. The fact that enrollment in the high school has more than doubled in less than three years indicates that the colored people of the community appreciate the improvement in the efficiency of the school.

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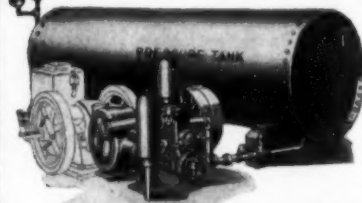
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Kearney New Jersey School
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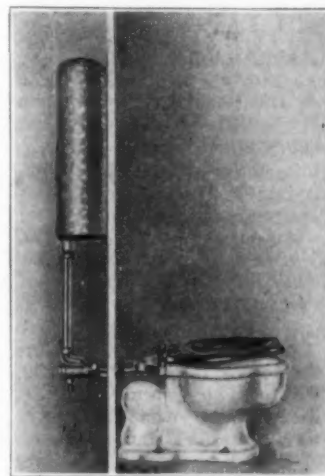
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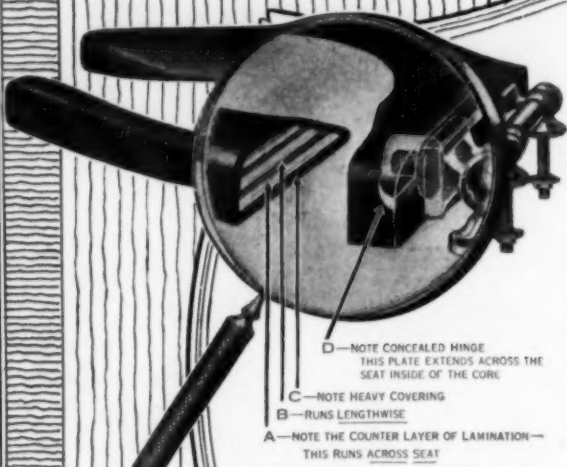
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MAJOR CLANCY PASSES AWAY

Major Albert Worthington Clancy, for many years the field representative of the American Book Company, and the most widely known bookman in the Northwest, died Christmas night at his home at Minneapolis, Minnesota.

Major Clancy was born on a farm in Jefferson County, Ohio, January 27, 1849, and was educated at the National Normal school at Lebanon, Ohio. He taught school in Ohio and Indiana covering a period of thirteen years. During this period he was superintendent of schools at Delaware County, Indiana.

He entered the book business with the A. S. Barnes Company in 1880, and continued with its successor, the American Book Company, in 1890. Since 1904 he represented the Company at St. Paul and Minneapolis, but he was frequently assigned to different sections of the country.

In his chosen field of work he distinguished himself as a business man of unusual energy and ability. He was always loyal to the cause of education and to his firm. No one in that field could point to a longer continuous service, or claim the confidence and friendship of a wider circle of school people.

Major Clancy was popular wherever he was known. He was frank in telling that he was a one-armed man because he had worked unwisely about a farm cornsheller and that his title was purely honorary. He made no claim to military distinction. His genial disposition, together with a philosophic mind and a ready wit, endeared him to all those with whom he came into contact.

His wife was Rochelle Henderson of Minneapolis. The couple had no children. The burial took place on December 29th, at Minneapolis.

SCHOOL ADMINISTRATION NOTES

—Prescott, Ark. The board of education has adopted a building program for the coming summer. It is planned to erect a one-story school building to replace two old buildings considered unfit for use.

—Longmont, Colo. A senior high school of fireproof construction is in process of erection. The building which will be occupied about April 1, 1926, will cost \$264,000.

—Prescott, Ark. Supt. O. M. Corbell recently addressed the local rotary club, speaking on the subject, "The Financial Situation of the Prescott Schools." He obtained the cooperation of the club members in a proposed campaign to raise the assessment for the city schools.

—School expenditures in Alaska continue to increase but at a rate which does not occasion alarm, according to a recent report on enrollment and expenditures. During the school year 1924-1925 the sum of \$453,501 was expended

for the maintenance of elementary and high schools. This figure represents an increase of but \$5,817 over expenditures made during the previous year.

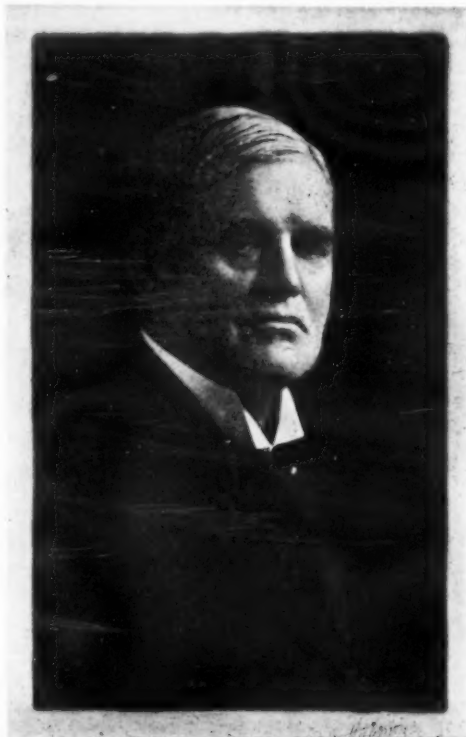
The enrollment grew from 3,975 for the school year 1923-1924 to 4,162 for the school year 1924-1925, representing an increase of 187. A total of 199 teachers were employed during the school year 1924-1925 as compared with 186 for the previous year, an increase of thirteen. The total number of schools maintained in 1924-1925 was 77, as compared with 74 in operation the previous year. The per capita expenditures based on total enrollment were \$112.62 for the year 1923-1924 and \$108.96 for the year 1924-1925.

REORGANIZE SCHOOL ADMINISTRATION

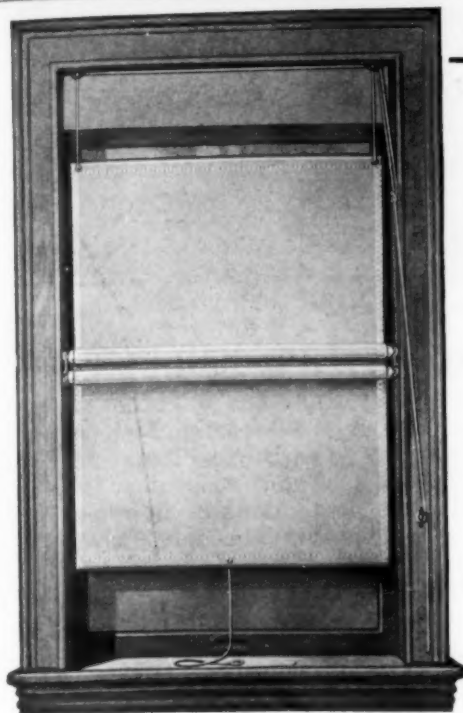
—The new school board of Providence, R. I., as one of its first duties, has adopted bylaws which place the entire responsibility for the proper conduct of the schools in the hands of its executive officer. The new administrative organization calls for a deputy superintendent, four assistant superintendents, a purchasing agent, four directors of special subjects, a supervisor of accounts, and subordinate officers in each of the departments.

At the special request of the school board, Supt. Isaac O. Winslow has prepared a set of fundamental regulations for the government of the reorganized system and these regulations have been made a part of the bylaws.

It will be the duty of the superintendent to prepare the annual budget, showing the amount necessary to be appropriated from the general tax levy for the support of the schools for the following fiscal year. He must prepare and submit salary schedules covering all classes of service and he must submit for approval a catalog containing the content and aims of all the courses of study and the rules governing the election of such courses and the admission, classification, grading, and promotion of pupils. Lists of textbooks will be prepared by the staff and a manual will be compiled giving the duties of the various members of the administrative, supervisory and teaching staff.



*Most Truly Yours,
A. W. Clancy.*



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MONTCLAIR'S SCHOOL BUILDING PROGRAM

(Concluded from Page 89)

The new elementary schools are modern in every respect including auditorium and play-rooms. The architecture is peculiarly in harmony with the school surroundings and an attempt has been made to give each building individuality. One of these buildings has been named the Edgemont School because of its location opposite Edgemont Park, and the other will be known as the Bradford School in honor of Emory Bradford, who devoted much of his life in Montclair to the civic, social, and spiritual needs of the city.

With the abandonment of the two old elementary units at Rand and Mt. Hebron, Montclair school children will be housed in modern, up-to-date school buildings. The chief consideration of the board of education throughout this study of housing conditions in Montclair has been the needs of the individual child. In adopting this comprehensive program Montclair has done what so many communities have failed to do, namely, to insure the future children of the city of proper travel distances and adequate educational facilities.

THE CONSOLIDATED RURAL SCHOOL

(Concluded from Page 92)

A rural high school that is worthy of careful study has been completed recently (July, 1925) at Winnebago, Illinois, under the supervision of Architect Edgar A. Payne, of Carthage, Illinois.

The building is rectangular in form, 80 feet in width and 105 feet in length. It is two and three stories in height, the ground floor being three feet below the grade of the surrounding surface. The main front of the building faces east and the classrooms are arranged to face east, north and south. On the east front of the building there are two vestibule entrances and stairs leading to the upper floors. The boiler

room is under the main building and contains two 9,000 ft. steam boilers of sectional type. The coal bunker is large enough to hold something over a carload of coal and is outside the building, with reinforced concrete roof at the grade level.

The ground floor contains a gymnasium 38'x68' clear floor space, ceiling 21' clear, with large stage and a balcony accommodating 200 spectators, with boys' and girls' showers and toilets at opposite ends. This floor also affords space for manual training and finishing room, domestic science, and large lunch room. On the first floor of the building are four regular grade rooms, each equipped with Wilson wardrobes, also an office for the superintendent. The second floor is arranged entirely for high school, with a study hall seating 125, a laboratory, two recitation rooms, and two rest rooms each with toilet and lavatory.

The construction of the building is semi-fire-proof, all walls being of brick, the corridor floors of reinforced concrete and the stairs of steel. The finished floors in the corridors, on the stairways and in the vestibules are brownish red in color and coved at the walls to make them more sanitary. In the classrooms the floors are of hard maple, the wood trim is of oak, and the blackboards are of natural slate. The building is heated and ventilated by steam and the plumbing fixtures are of the most modern type. Water is supplied from a deep well by electric pump and pressure tanks. The building is lighted by electricity with fixtures of the semi-indirect type.

The exterior of the building, although devoid of elaborate architectural ornament, has a pleasing effect produced through the harmonious grouping of openings and the proper use of contrasting materials. The exterior is faced with

tapestry brick with cut stone trimmings.

The building has a student accommodation of three hundred pupils, and cost a little under \$72,000, complete except furnishings.

THE BEATRICE JUNIOR HIGH SCHOOL

(Continued from Page 80)

300'x450'. One side adjoins the Memorial Park, so that the building has a most beautiful and dignified setting. The fine Athletic Park, which serves both the school and the community, is located just a block west of the junior high school grounds. It contains four acres of space.

The junior high school building is a decided departure from the usual type of two-story-and-basement building. There is no basement, except for a small area of space for the ventilating apparatus, and a certain amount of space under the gymnasium, which may be ultimately used for storage. Heat for the building is supplied from a central station plant, located adjacent to the Central high school.

The building is planned around the auditorium and the gymnasium and is so arranged that the corridors and the rooms for school purposes proper are located across the front and the two sides of the building. If it should be necessary to enlarge the structure in the future, this may readily be done by adding rooms to the rear and continuing the corridors.

The thirty-two classrooms are located all together on the outside of the building, giving each room outside light. Each room is of standard size, has unilateral lighting, plenty of 42" slate blackboard, with poster board above it. The walls of the classroom are of hard plaster, finished with a fine sand finish and tinted in buff. The trim throughout is oak, finished in a soft pearl grey. The floors are of hard maple, laid over the concrete floor slabs. The corridors and supplementary rooms of the



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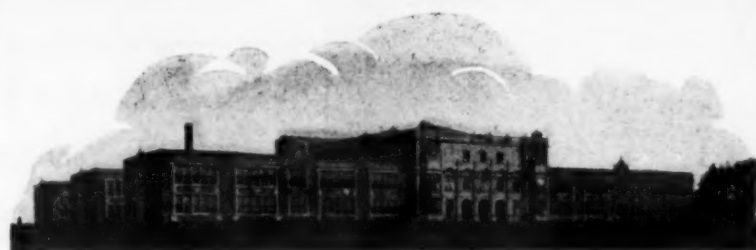
It made that record in the St. Louis Schools last year. The Electrozone re-conditions the warm inside air and it can then be recirculated. To heat this air requires about half the furnace capacity and fuel that is needed for harsh cold air from the outside; and it is healthier to breathe, too.

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Theodore Roosevelt High School,
Des Moines, Iowa

Proudfoot, Bird & Rawson, Architects
Des Moines, Iowa

VENTILATION IN THIS SCHOOL

is accomplished by 8 Bayley Fans and 5 Turbo Air Washers supplying a total of 196,000 cubic feet per minute of pure, washed air. The Bayley Turbo Air Washers not only remove dust and suspended impurities from the air but also maintain a proper degree of humidity. This is the Theodore Roosevelt High School, Des Moines, Iowa, — a splendid example of modern school construction and architectural design.

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building are finished like the classrooms, except that the floors are of terrazzo.

The building is centrally located, and because of a wide felt need in the city for a community auditorium, the school board has provided an auditorium seating 1250 people, and perhaps more elaborate than would be necessary for ordinary school purposes. The arrangement of the gymnasiums, which are in reality a continuation of the auditorium stage, is such that the largest choruses, as well as gymnastic exhibitions, basket ball games, etc., can be performed in view of the entire audience in the auditorium. When such gymnastic performances are given, small balconies above the locker rooms adjoining the gymnasium are available for additional seating, bringing the total up to 1,500 persons.

The stage is separated from the auditorium by means of large doors which fold back entirely out of sight. The entire opening of the proscenium arch is 70 feet, and is so arranged that the sides can be shut off by means of heavy velour curtains which are fitted into pockets at the sides. Back drops and a cyclorama are available, so that the stage may be used for theatrical purposes. The space between the footlights and the permanent folding doors is 11 feet, which is ample for open exercises, lectures and recitals.

The gymnasium measures 62'x80' and is equipped with a track for folding doors, so that the room may be divided at some later time into separate boys' and girls' gymnasiums. Adjacent to the gymnasium are boys' and girls' showers and locker rooms, equipped with steel lockers, wire clothes baskets, toilets, drinking fountains, offices for the physical director, and storage rooms.

A considerable portion of the first floor is used at present for grade school purposes. As the school population grows, it is planned to remove the grades and replace them with junior high school classes. In addition to regular classrooms, an office suite, a series of rooms for cooking and sewing, and a manual training shop are located on the first floor.

On the second floor there are classrooms and special rooms for geography, science, English classes, music, and a library. The music room is insulated to make it sound proof, and is equipped with double doors from the corridor. It has a stage, so that it may serve for meetings of student organizations, parent-teacher clubs, etc.

The special study and work rooms are equipped with special storage cabinets for students' materials. A sufficient number of individual compartments is provided in each section of the storage cabinets for one full class. Each section is provided with a special door, controlled by the teacher. Thus, for a six period day, there are six sections and the master key is in charge of the teacher, which gives him access to each of these six sections. The same type of sectional control is applied to the locker rooms in the gymnasium. Unfinished projects in the manual training shop, sewing materials and sewing work in the sewing rooms, aprons in the food laboratory, and students' note books in the science room and in special classes are all handled in this way. This system has been found a very desirable feature for saving time and labor.

The corridors serve not only as passage ways, but are used for other interesting purposes. The steel lockers for pupils' wraps and books are recessed in the first and second floor corri-

dors. On the first floor there are six show windows which make it possible to exhibit the work of the school where all the students and the general public can view it. The display windows have plate glass fronts and plate glass shelving, and are provided with special lighting, so that the articles on display can be properly illuminated.

The sanitary equipment of the building is of the latest type. The plumbing is of heavy duty, ventilated type. The sixteen drinking fountains are finished with grey tile. The building is heated with steam and is ventilated by means of seven fans, located in the basement.

The exterior is in the English Renaissance style, carried out in red brick with raked and struck joints, and trimmed with light colored stone.

The building cost \$275,000 and accommodates at present 800 pupils. The unit cost is approximately 22 cents per cubic foot. The architects were Messrs. J. H. Felt & Co., Kansas City, Mo. The dedication took place October 5th, 1925.

HYGIENE AND SANITATION

—Dodge City, Kans. In compliance with a state law, the school board has made arrangements for free examination of the teeth of school children. The examinations will be made by members of the local association of dentists.

—Sixty different boards of education in Iowa have cooperated with the state board of health in conducting vaccinations of children for diphtheria. During the month of October, 2,990 school children in the state were vaccinated and material for 3,000 at Dubuque was sent out recently. A white button bearing the inscription "I don't want diphtheria" is presented to children who have been vaccinated.

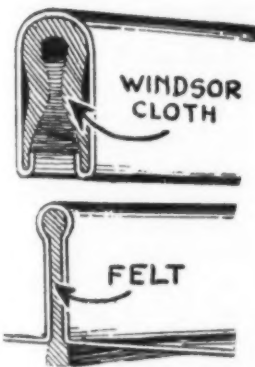
—Pawtucket, R. I. In extending the school medical inspection service to the parochial schools, the school board has employed two additional medical inspectors.

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Athey is the *only cloth-lined metal* weatherstrip made. And experience has proved that a cloth to metal contact is the only one that provides a perfect "seal" against drafts and dust.

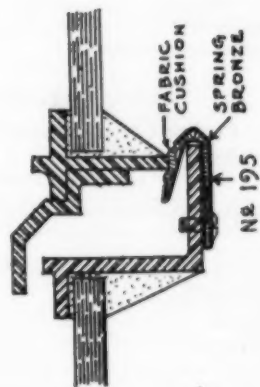


Athey Cloth-Lined Metal Weatherstrip for wood sash. The cloth-to-metal contact keeps out all drafts, dust and noise, yet is sufficiently pliable so the windows can be opened easily.

It can be used on either wood or metal sash. Leading manufacturers of steel sash recommend it as the best obtainable for use with their product.

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Howard A. Stout, Associated Architect
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When you consider the large number of radiators in a school you realize the big, expensive job of periodic cleaning beneath each of them.

This cost is greatly reduced by using **LEGLESS** radiators hung from the wall with **E-Z Radiator Hangers**. They are adapted to **ANY** wall and fit **ANY** radiator made. Write for illustrated folders.

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THE BABES SWITCH MEMORIAL SCHOOL

On Christmas Eve, 1924, the little community of Babbs Switch, near Hobart, Oklahoma, witnessed the destruction of its little one-room school under distressing conditions and with the loss of 33 lives, including adults and children, mostly patrons of the school.

The present Memorial school is the result of the strenuous efforts of the community to rise above its tragedy, and out of the ashes of the old has come a new and better school to serve not only the children who shall attend, but to

minister as well to the patrons of the community.

The school was completed and occupied with the opening of the fall term in September. It is a modern one-room, fireproof structure of the rural school type. A \$6,000 bond issue was voted and sold to provide funds for the new structure, the cornerstone of which was laid in June, with simple, but impressive ceremonies.

The building is of brick construction, with fireproof studding and roof. Double, outward-

swinging doors are located in both the front and rear of the building to provide adequate exits from the building. It was the lack of proper and sufficient exits in the old building, which led to the imprisonment of the frenzied occupants and caused the loss of life.

CORRECTING ACOUSTICAL DEFECTS

The Washington high school, Janesville, Wis., was found to be defective as to the acoustics of its assembly hall which seats 1,608 students. An expert, J. P. Schwada, of Milwaukee, who was drawn into counsel, states that the difficulty is found in the fact that the room lacks sound absorbing material such as upholstered seats, carpets and draperies. The trouble was described as "reverberation, or the multiple reflection of sound from surface to surface before its energy is sufficiently absorbed to become inaudible."

The correction was effected by placing absorbing material on the ceiling. Following Professor Sabine's formula, Mr. Schwada found that there were only 1,489 absorbing units in the Janesville high school auditorium and the reverberation lasted 9.61 seconds when the room was empty. With one-third an audience, it was found there were 3,999 absorbing units and with a maximum audience, 9,019 units. Enough absorbing material was installed to bring the number of units up to 6,300 with one-third an audience, reducing the period of reverberation to 2.28 seconds as compared to a recommended period of 2.30 seconds with that size house. The material installed increased the number of absorbing units to 11,320 when there was a capacity house, reducing the period of reverberation to 1.27 seconds as compared to 1.55 seconds recommended for a capacity house.

—Babylon, N. Y. An appropriation of \$365,000 has been made for a two-story high school, containing an auditorium and gymnasium.

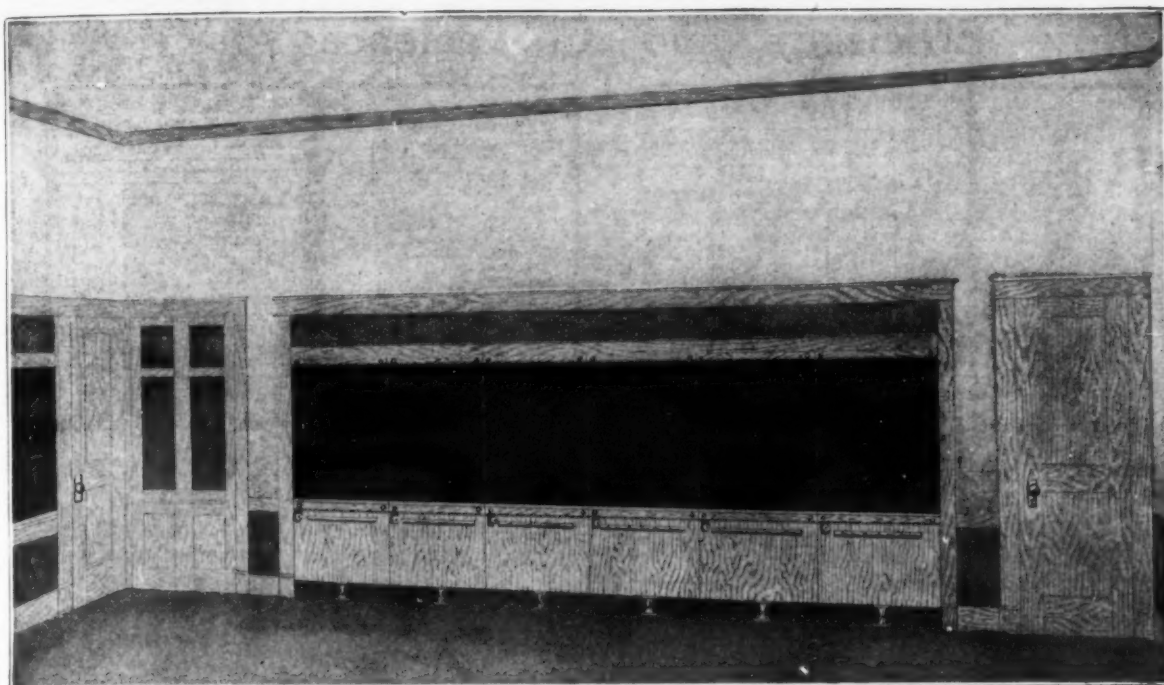
—At East Rockaway, N. Y., an appropriation of \$196,000 has been made for a new school, to contain eight classrooms, an assembly room, library and gymnasium.

—Irondequoit, N. Y. An appropriation of \$245,000 has been made for the building of two schools, one of eight rooms, and one of twelve rooms.



BABBS SWITCH SCHOOLHOUSE, HOBART, OKLA.

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MILLER SCHOOL WARDROBE

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NEW BOOKS

Millinery

By Jane Loewen. Cloth, 213 pages, illustrated. The Macmillan Co., New York City.

There has been a feeling among women that millinery is something beyond their power of accomplishment and that the construction of hats requires a great amount of creative ability and specialized training. This belief has been fostered by two factors: First, by the creations which many women have involved, and second, by the attitude of the professional milliners. It is maintained by the author that any home girl or woman with average good taste and judgment can very easily learn to copy or adapt the styles she sees in shop or style magazine to suit her own needs. A knowledge of millinery principles and processes of construction is necessary but this is easily attainable by any girl of average intelligence.

The present book classifies and sets forth the practical and technical principles of millinery that a working knowledge of it will be easily within the grasp of the student. The book describes the uses of wire frames and how to construct a frame for a hat; the making of foundations for crowns and how to determine kinds of crowns suitable for individual types of faces; cutting materials; rules for measuring, correct shading and measuring for correct amount of material; fall materials and fabrics and the construction of fabric hats for fall and winter; braid hats and manner of sewing; transparent hats and finishes; matrons' turbans, harem turbans and draped tams. There are also chapters on trimmings, cleaning and remodeling, and color harmonies as applied to different individuals.

Health Through Prevention and Control of Disease

By Thomas D. Wood and Hugh Grant Rowell. Cloth, 122 pages. Price, \$1. World Book Co., Yonkers, N. Y.

The school because of its very nature is constituted to act as a disease center, an assembler and distributor of children's diseases in the community.

It is believed by some authorities that the chance of the children for health and life depends as much upon protection against certain infectious and communicable diseases as upon the care and promotion of personal health.

It is the purpose of this book to give constructive help in the campaign to substitute health for disease in every school. The plan offered here is intended for teachers, school officials, school physicians and school nurses. It is intended also to give information to parents in order that they may cooperate with school authorities in securing better health protection for their children and for all children in the schools.

The book does not aim to give directions for the diagnosis of disease but to furnish a practical method for prevention and control of disease in schools. It discusses fundamentals for the control of communicable disease in schools, shows how to pick out susceptible children, how to discover health disorders, measures to be taken in case of contagious disease, as well as standards for exclusion and quarantine, and the making of communicable disease reports in schools.

Primer of Arithmetic for Middle Forms

By F. M. Marzials and N. K. Barber. Cloth, 262 pages. Price, \$1.25. Published by the Oxford University Press, New York City.

This book has been prepared with the aim of supplying a middle form arithmetic which the pupil can read for himself with a minimum of assistance. Essential principles of arithmetic computation are explained and examples involving these principles follow them as logical applications. In this way allied branches of the subject have been kept together in one section so that the reader can understand that there is a sequence in the subject and that new fields of work are open which are not confined to one special application. Throughout the text and examples, considerable stress has been laid on the unit of measurement for without a grasp of the unit involved in every calculation, there can be no real understanding of the underlying theory.

The text opens with a study of the theory of numbers, including decimals and proceeds with a study of fractions, ratio or measurements, calculations involving growth at a constant rate, and growth and decay factors.

Care has been taken in the exercises that the types of questions and the number of exactly similar exercises do not follow one another. After each section is a graded set of papers which include review questions on all work which has been covered.

Little Ugly Face

By Florence Claudine Coolidge. Cloth, 181 pages, illustrated. Published by the Macmillan Co., New York City.

This is a children's book of Indian tales. The writer has made a study of the Ojibway and Pottawatomies tribes in Michigan and of the Papagos and other tribes in the Southwest. She deals in myths and stories, all of which are delightful and most entertaining. A series of attractive pictures, in which Indian children and wild animals predominate, grace the pages of the book and add much to the interest of the text.

Gold Tree and Silver Tree

By Katharine D. Morse. Cloth, 160 pages. The Macmillan Co., New York City.

Six original plays based on fairy themes and taken from old folk tales are included in this book. The material is suited both for reading and for presentation on the stage. The plays will be welcomed for class dramatizations, as well as school entertainments.

MacQuarrie Test for Mechanical Ability

By T. W. MacQuarrie. Six booklets. Published by the Associated Students Store, University of Southern California, Los Angeles, Calif.

A group of performance tests for determining mechanical ability of men.

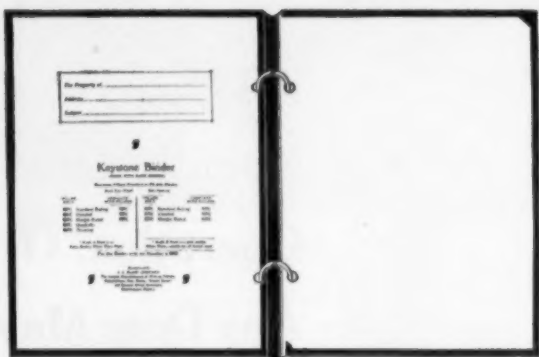
Chalk Talks on Health and Safety

By Walter F. Cobb. Cloth, 243 pages, illustrated. Published by the Macmillan Co., New York City.

This book holds the attention of little Johnnie and Mary by telling them a lot of pretty stories and showing them a series of funny chalk pictures. Having captured the little readers the author leads them unconsciously into habits of health and cleanliness as well as safety. The

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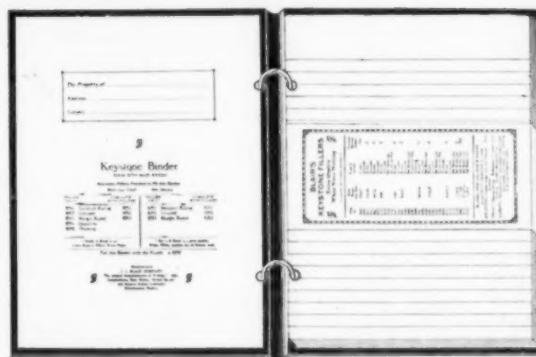
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pictures are such as Johnnie and Mary might themselves draw on the blackboard and can be readily understood and appreciated by them.

The Little White Gate

By Florence Hoatson. Illustrated by Margaret W. Tarrant. Cloth, 86 pages. Thomas Y. Cromwell Co., New York City.

This is a book of delightful short poems which addresses itself to children. The subjects deal with field and garden, with fairies and the home. Part Four is devoted to story telling. The environment is English. The book is embellished with colored drawings.

Eskimo Legends

By Roy J. Snell, cloth bound, 203 pages, price 80 cents. Published by Little, Brown & Company, Boston.

The author tells of strange life in the Far North. He recites a number of Eskimo tales, which are full of adventure and exciting interest. The reader is introduced to the Eskimo children and told of their pleasures, pastimes, and labors. There are many lessons hidden in the folk stories here told.

The Brownies' Health Book

By Nathalie Forbes Moulton. Cloth bound, 160 pages. Price, 75 cents. Published by Little, Brown & Company, Boston, Mass.

This book is intended as a supplementary reader for the second school year. The text deals with fairy tales in which the Brownies engage in many happy pranks. The subject of wholesome activity and compliance with the laws of health is emphasized.

The book is set in large type and is supplied liberally with illustrations.

A Manual to Accompany the Study Readers

By Alberta Walker and Mary R. Parkman, Charles E. Merrill Company, New York.

This manual contains a valuable discussion of the teaching of silent reading, and presents complete directions for the use of the study readers. Ample material for type lessons and for supplementary work is included.

Stone's Silent Reading

Book two. By C. R. Stone. Illustrations by Edith Butler. 226 pages. Price, \$0.60. Houghton Mifflin Co., Boston, Mass.

Development of fluency in oral reading means

the development of facility in word-recognition and proper rate and regularity of eye-movement. The immature reader reads faster orally than he does silently, while the mature reader is able to read much faster silently. It is emphasized that in the first and second grades silent reading has its minimum value in relation to speed development but the higher the grade, the greater the value of the silent-reading method in developing speed.

The present textbook is intended for second grade use, but is also adapted for training purposes for inferior groups in the third grade and readily supplements any series of primary readers. In preparing the book, great care has been taken to have the method and content of each lesson mutually adapted so as to realize most effectively a definite objective. For instance, some lessons are planned to develop facility and power in comprehending sentences, while others are intended to point out the essential points in simple paragraphs. A few brief stories have been included for training in the ability to read a story with a problem in mind and to grasp the essential points bearing on the problem. A number of lessons have been planned for vocabulary training. There are also exercises for silent-reading seat work and lessons for training in the study of informational material.

A variety of types of stories have been provided to develop story-reading interests and to develop ability in reading various types of story material. The book offers material for speed drills in story reading, for comprehension training, for pleasure and general information, and for narrative tests. Suggestions are given for overcoming word difficulties occurring among some of the poorer readers and a list of references on silent reading are given.

The stories contained in the text have been reproduced from copyrighted material of a number of well-known authors of children's stories, who have given their permission for the use of the material.

Typographically the book leaves nothing to be desired.

An Arithmetic for Teachers

By W. A. Roantree and Mary S. Taylor; 610 pages. The Macmillan Co., New York, N. Y.

This book is out of the ordinary run of books on this subject since it is directed to teachers.

The author believes that a teacher's knowledge of this so-called elementary subject should be greater than the academic knowledge which he obtained as a pupil, and which he in turn hopes to have his pupils obtain. It is expected that the teacher should know something of the historical development of mathematics and to acquaint himself with the stages of mathematical progress. He should understand the development and something of the utility of the subject, giving him an assurance in the value of the subject he presents and a guide for the formation of good habits in the use of mathematical tools.

The book aims to fulfill a two-fold purpose, in that it affords a book of information on various items to be taught in arithmetic and a discussion of methods of presenting this knowledge to children. The authors are fully competent to produce such a text inasmuch as they have had varied and distinguished experience and have been students of the problems connected with teaching children arithmetic and with preparing teachers to teach the subject. The book represents a conscientious effort to combine conflicting elements and opposing views into consistent, unitary treatment and to give a historical background for the teacher with "insight" into mathematical relations.

The subject material covers everything from the simple operations of addition, subtraction, and multiplication to advanced study of stocks, bonds, taxation, and interest.

Geographic Principles

By D. C. Ridgley. 190 pages. Price, \$1.20. Houghton Mifflin Co., Boston, Mass.

This book was prepared as a means of aiding teachers in the difficult problem of organizing interesting and valuable facts of geography about fundamental, central ideas as a means of unifying, in a measure, the geographic knowledge presented to pupils in the elementary and junior high schools.

The teaching of geography in elementary schools bids fair to find a new importance in the eyes of teachers. The trends of reform seem to indicate that geography study will provide what school managers have been seeking, a unit of study, as comprehensive as the physical aspects of life itself.

(Concluded on Page 162)

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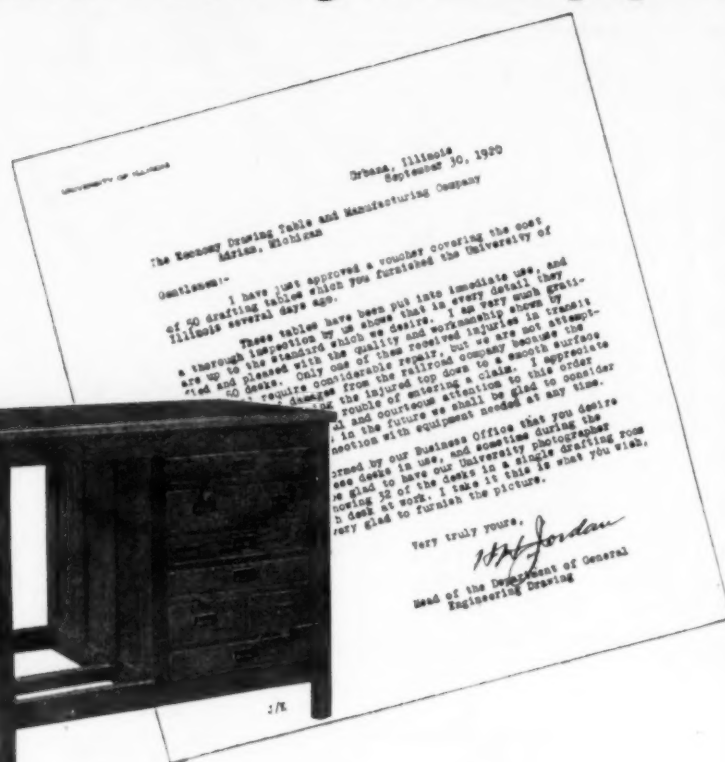
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THE ECONOMY SCHOOL FURNITURE COMPANY, SUCCESSORS TO ECONOMY DRAWING TABLE & MFG. CO. Adrian, Mich.

(Concluded from Page 160)

The material is introduced by defining and illustrating geographic principles and geographic factors in a somewhat technical sense. In the development of the subject it has seemed desirable to set forth and to emphasize not only the use of geographic principles, but to introduce those simple general statements needed as foundation ideas leading to an appreciation of the more technical geographic principles.

The author has produced the present teacher's aid as a result of his years of experience as a teacher of geography, involving the teaching of classes throughout all the years of the elementary, junior high and senior high school, normal school and college. The needs of the teacher and pupils have been kept in mind at every step and the study sets forth the means of developing geographic principles within the comprehension of pupils of the several grades, as well as making suggestions for applying these principles in the organization of the subject-matter. The material covers the course of study and geographic principles, guiding principles in home geography, principles in the study of the world as a whole, geographic principles in the study of North America and in the study of North American cities.

Seat Work in Arithmetic

For first, second, third, fourth, and fifth grades. Contains directions and materials for projects. Published by the Harter School Supply Co., Cleveland, O.

The several packages in this interesting group of instruction material contain new self-directed learning exercises in the fundamental operations of arithmetic, based on the extended research of Prof. Garry Cleveland Myers and his associates. The material is in the form of cards and directions, which are enclosed for convenience in large manila envelopes. The material is "designed to evoke greater pupil interest in the learning process of the subject, and to provide the teacher with practical and helpful material conforming to the requirements of advanced pedagogy." It is intended also to reduce textbook expenditures.

The first grade material is made up of three parts. Part one entitled "First Steps in Number Learning for Primary Grades" is designed to teach numbers up to and including ten, and

to read and write these numbers. The exercises are quite evidently self-teaching and self-directive. The teacher may demonstrate to the pupils how to study and test, but the children do the actual work, either grouped in pairs, one reading from the test as the other checks, or each pupil may read the page and write the answers on another sheet of paper.

Enclosure No. 2026 is a silent teacher of "Addition for Primary Grades." The directions tell how the pupil may give the correct answer below the problem. Discs and cards match in color so there is little chance of getting the wrong disc with the wrong card.

Enclosure No. 2129, entitled "First Steps in Addition for Primary Grades" is designed to give the children the meaning of numbers up to and including ten, to lead them to learn the moreness and lessness of numbers, and to train them in the technique of combining in addition. In other words, it aims to put meaning into the processes of addition and to afford a concrete background.

Another enclosure, entitled "The Toy Store—Arithmetic Seat Work" is intended for second and third grades and contains 160 problems in buying toys from the shelves of a toy store. Drawings furnish visual images for the pupil as he reads each problem. These problems are based on the children's past experience, and tend to lead him on to more difficult problems. The package contains eight cards, two lessons to a card, and ten problems to a lesson.

For the four middle grades, there are offered four series of seat-work problems. Enclosure No. 2106, entitled "Learning to Multiply and Carry" contains self-supervised seat work for grades three and four. The package contains sixteen projects, providing 256 separate activities for sixteen pupils. The lessons are of the self-help type in which the teacher writes nothing and says nothing, unless it be to urge great care in following the directions. Means of self-testing are provided as a challenge and a means of developing independence.

Enclosure No. 2099, entitled "Teaching Division with a Remainder" is intended for grades three and four, and contains sixteen projects, providing 256 separate activities for sixteen pupils. In order that the children may learn to divide, they must have mastered such facts as

eleven divided by three equals three and two over. They must at least have mastered the technique in all such sample forms. The pupils are taught by means of samples so that there is good drill in combinations.

Enclosure No. 2067, entitled "The Grocery Store" is for third and fourth grades, and is similar to the material provided for the toy store.

The final project of the series, No. 2101, entitled "Fact-Number Drills," is intended for grades three, four, and five. It contains 32 projects, providing 1,024 pupil activities for a class of 32, and is designed to teach two essentials: ability to rank large numbers in the order of their magnitude, and ability to read, write, and interpret large numbers. The purpose of the plan is to give the pupil help in reading numbers when he needs it, and the material is taken chiefly from the World Almanac. It includes facts on population, school attendance figures, average yearly cost per pupil for education, and number of illiterate and foreign-born by states. Among the helps suggested in providing source material are the World Almanac, the U. S. Census Reports, and publications of the U. S. Government.

This entire series is based upon a considerable group of correct pedagogic principles involved in all primary work. Self-activity, interest, adjustment to individual ability, visualization—a dozen important elements which every good teacher takes into account have been introduced into the content and arrangement of the material. The single criticism which may be made is that the teacher should herself develop such material exactly adjusted to her own class needs. The fact that few teachers can do so is more than ample justification for the present series which has been worked out in detail and apparently tested under a variety of situations.

Regulations of the Board of Fire Underwriters for the Construction and Installation of Oil Burning Equipments and the Storage and Use of Oil Fuels. These rules provide general requirements for the construction and installation of oil fuel storage tanks, their auxiliaries, piping heaters, and pumps. There are four distinct classes of installation and each class of installation introduces a different degree of hazard.

IF Ponce de Leon were to land on the Isle of Bimini or Florida, as he named it, he would find his dream of the Fountain of Youth as near perfection as it is possible to be in the new

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(Athens, Ga.)

WRITE FOR
CATALOG

AESTHETICS IN SCHOOLHOUSE DESIGN
(Concluded from Page 40)

cheap it looks after the Exposition!" Even the hodge-podge flimsy plaster structures inside the gate, small in size as they were, and light in construction, by the original, not imitative thought in which they were designed, possessed greater dignity than the enormous stone palace

adjoining, whose design only followed the ruts of outworn precedent. The realm of independent architectural thought at present seems to be seated in northern Europe—in Sweden, Finland, Poland, and so on. The influence of these countries in art is being felt around the world. It will be interesting to see how America is affected by it.

Maplewood have given unusual attention to the personnel of their teaching force, striving not only to get the best teachers obtainable, but after they have been employed to look out for their comfort and welfare. They have not only furnished these up-to-date school buildings, in which they may teach, but have also provided and maintained a Teachers' Club building, where the teachers may secure both room and board at a reasonable expense. This Teachers' Club has proven to be one of the most useful and successful features of the school district.

THE BEVERLY HIGH SCHOOL (Concluded from Page 48)

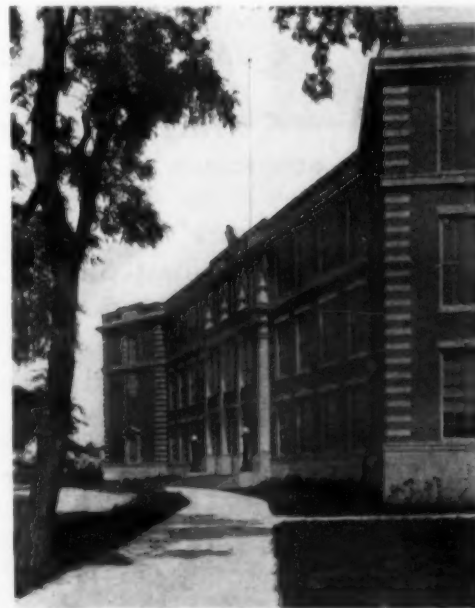
dropped directly into them from trucks with a minimum of trimming. The heating plant is complete, including a heating and ventilating system, a power plant, and an automatic sprinkling system, and was installed by the J. S. Cassidy Co. Ten Sturtevant Silentvane fans are used for ventilation, a Johnson temperature regulating system for regulating the temperature, and a Holtzer-Cabot telephone system for intercommunication between the rooms. There are also installed a Spencer-Turbine vacuum cleaning system and a complete program clock system with electric clocks in each classroom and service room of the building.

The building was planned and erected under the supervision of Architects Adden & Parker of Boston, and the construction work was performed under the direction of Ingalls & Kendriken, structural engineers, and James S. Cassidy Company, heating contractors. It was erected at a total cost of \$1,146,000, including site, heating and ventilation, plumbing, electrical work, shops, grading and planting.

NEW GRADE SCHOOL BUILDINGS OF SOUTH ORANGE AND MAPLE- WOOD, N. J.

(Concluded from Page 57)

In addition to these new types of buildings with their ample grounds, South Orange and



BEVERLY HIGH SCHOOL, BEVERLY, MASS.
Adden & Parker, Architects, Boston, Mass.

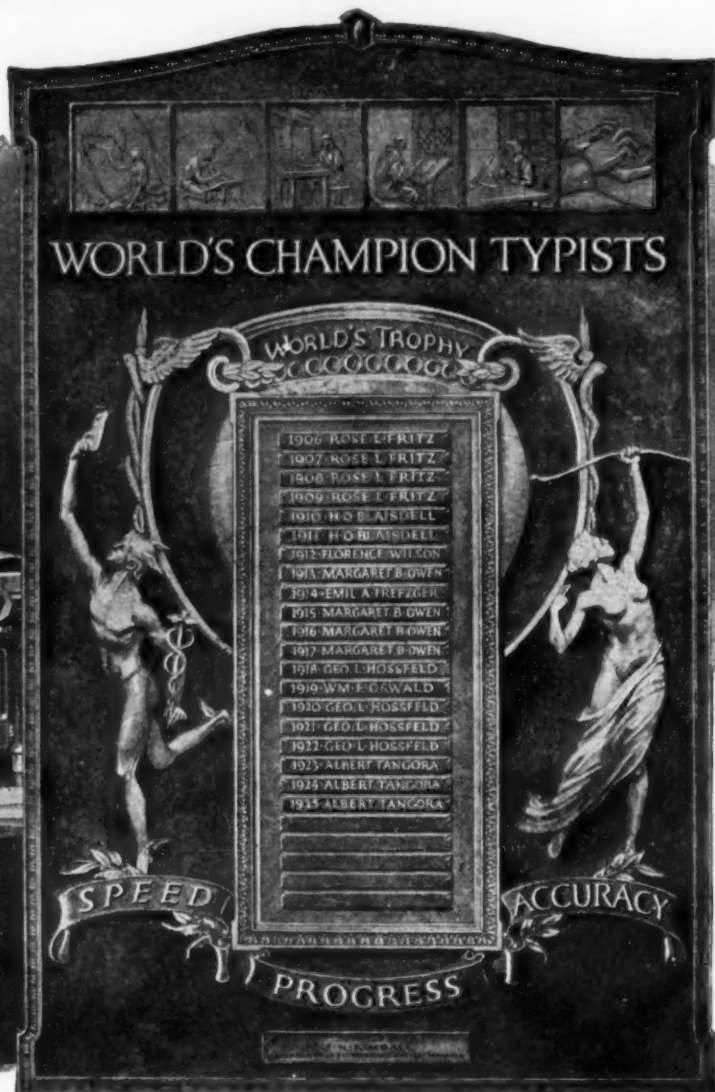


MICHAEL DRISCOLL SCHOOL, BROOKLINE, MASS.
Kilham, Hopkins & Greeley, Architects, Boston, Mass.
(A pitch roof type in a suburban neighborhood.)

Another Victory!

Underwood Wins World's Typewriting
Championship for 20th Consecutive Year

ALBERT TANGORA
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New World's Typewriting Championship Trophy

AGAIN the world's record for fast and accurate typewriting has been established on an Underwood Typewriter, Albert Tangora, retaining his title at 130 net words a minute for one hour.

Twenty years ago, under the auspices of the National Business Show Company, the first International Typewriting Contest was held. Fostered by 15 leaders in the office appliance industry who realized the need for raising the

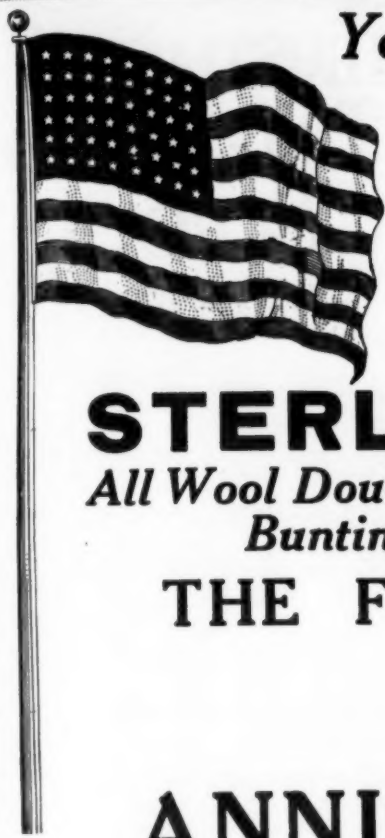
standard of typewriting, these contests have proved a strong stimulus in improving typewriting speed and accuracy in school and office.

During these 20 years of typewriting championships, eight different typists have won their titles on the Underwood — *champions change, but the Underwood never loses.*

For speed and accuracy in typewriting, the Underwood stands among writing machines without peer.

UNDERWOOD
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FEDERAL, STATE and MUNICIPAL GOVERNMENTS use more flags made of STERLING and DEFIANCE buntings than all other brands combined.

BUILDING INDUSTRY TURNS TO MINERALS TO REPLACE THE DISAPPEARING TIMBER

(Concluded from Page 67)

hibiting by law all wooden frame construction within the more thickly settled parts of town. All these restrictions have together been an important factor in reducing the demand for lumber in building activities.

SOUTHEAST JUNIOR HIGH SCHOOL, SOUTH BEND, IND.

(Concluded from Page 64)

large, fully equipped food laboratories or domestic science kitchens. They are equipped with sinks, cupboards, gas plates, gas ranges, buffet and the necessary kitchen utensils.

The clothing laboratory is complete in its arrangement and equipment. It has all the necessary cupboards and closets for storing supplies, a built-in ironing board, a cupboard for irons, keys, etc. It also has five large sewing tables with drawer space to accommodate six hundred girls.

On the third floor are also two large rooms used for the teaching of general science. The rooms are equipped with instructor's demonstrating desks, cupboards for science equipment, a dark room for developing negatives and blue prints, and an instructor's room.

This building is ideally located in that it is situated at the edge of a fine park away from the smoke, noise, and other things which detract from good school work. The school site comprises eight acres of ground so there is ample space for recreation.

At the present time the building is housing about 1300 students. As a rule the students come from the best of homes and, therefore, appreciate and take advantage of the opportunities afforded them.

About one year was required to build this school building and the cost was approximately \$600,000 including the equipment.

Austin and Shambleau, South Bend, Indiana, were the architects.

THE ALL-ROCKFORD STADIUM

(Concluded from Page 70)

With the opening of the stadium on September 26th, we have these facts of interest: First, the All-Rockford Kiwanis Club has had an important part in the development of a big community project. Second, Rockford has a stadium that has a seating capacity of 4,110. Third, the cost of the stadium, including building, \$26,487.00; grading, \$2,740.95; cyclone fence, \$1,224.74—was \$30,452.69. The cost per seat was \$7.41.

This stadium is erected and dedicated to the use of the people of the City of Rockford, under the management of the board of education.

INTERESTING MURALS IN THE MICHIGAN CITY HIGH SCHOOL

(Concluded from Page 72)

from the early history of Michigan City. As the city is a lake port, the decision was to make the theme of the painting that of activity at the harbor entrance in the early days of the city's life. This harbor entrance, with its wharf, shipping, warehouse and elevator, and its harbor channel, leading to Lake Michigan, flanked on either side by the sand dunes which have made northern Indiana famous, all make an admirable background for a well balanced and properly contrasted depiction of the activities carried on by the people busily at work loading and unloading vessels, driving ox teams, etc. Indians watching this ceaseless labor with their characteristic immobile stoicism, heighten the contrast and lend emphasis to the action depicted.

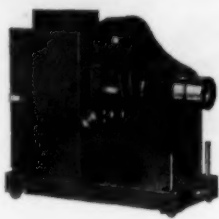
Not only has Mr. Grafton kept close to historical accuracy, but his treatment of the subject has been such as to lend to the study hall an atmosphere of perpetual sunshine. It is the hope and belief of all who have seen the painting that its silent influence on the boys and girls who will be brought in contact with it in the years to come will be potent in developing in our young people an unconscious love for such art and will stimulate their desire to bring into their lives more of such beauty.

The accompanying cut shows the picture in place and gives a good idea how its wonderful background, with the life size figures in the foreground, dominates the entire study hall. Michigan City is fortunate in having a live Rotary Club and an outstanding artist who shows his generous willingness to give his time and skill for the good of his fellow citizens.



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TYPES OF DENVER SCHOOL BUILDINGS

(Concluded from Page 76)

Fairmont Elementary School

This building was designed by Harry James Manning, architect, in Collegiate Gothic style. The exterior is built of red flash brick and trimmed in gray terra cotta. The building is grade level, two stories in height, and built with a view to future expansion. It has a cubage of 639,100 cubic feet, and was built at a total cost of \$210,000, or about \$0.33 per cubic foot.

The Fairmont School occupies the north end of a city block 600 feet by 266 feet. This leaves a playground about 400 feet by 266 feet south of the building.

The building was designed to accommodate either the platoon or the traditional organization. As a platoon school it will accommodate eighteen sections and the kindergarten.

There are in the building fifteen classrooms, kindergarten, auditorium, gymnasium, boys' and girls' lockers, toilets, rest rooms, and offices.

One of the classrooms is a beautiful library designed in Gothic details. The kindergarten is a complete unit, with its own entrance, wardrobe, storeroom, toilets, lavatories, and drinking fountain. It is a beautiful room, with a fireplace, and a frieze of animals and children extending around the room. The auditorium is equipped with stage, dressing rooms, balcony, and picture booth. It has a seating capacity for 350 persons.

A FLORIDA SCHOOL BUILDING PROGRAM

(Concluded from Page 85)

that he and his organization are to devote their full time to school work. If a trained school architect cannot be engaged for this service, then select an architect who is willing to become a school architect and assimilate the educational point of view.

(c) If neither of the two above plans are feasible, the school board may prepare a school building code, which must be strictly adhered to by architects. This code should embrace the best scientific thought on school administration and sanitation as well as school architecture and engineering.

Certain advantages have been gained in Dade County by distributing our projects to fifteen different local architects, namely: (1) one architect would have required considerable more time to get out all of our plans, even if he had no commercial work, and time was an important factor, (2) a greater variety of ideas and exterior designs have been contributed.

The plan of making architectural assignments to several different architects also has certain disadvantages:

(1) Non-uniformity of plans and specifications makes for confusion in the school board office and among the builders who are furnishing material and performing labor on various jobs designed by different architects.

(2) Standardization is made more difficult; and standardization is economy.

(3) Architects trained in commercial architecture do not readily grasp the modern-education point of view in school architecture. School architecture is a highly specialized profession.

The Dade County program has been marked by a splendid spirit of cooperation between all educational authorities, architects, contractors and the public.

SCHOOL BUILDING MAINTENANCE

(Continued from Page 88)

economical viewpoint to make maintenance keep up with depreciation. Constant maintenance generally prevents that expensive replacement of large items of equipment, which becomes necessary because of long periods of

inattention. A machine, like the "one horse shay" may last a hundred years and a day, and then GO TO PIECES.

In subsequent articles you will see how an effective maintenance organization can take care of the points as mentioned in this paper.

(Continued in February)

—Supt. L. C. Ward presided at the opening of the new Hill grade school at Fort Wayne, Indiana. Prof. B. F. Moore of the Muncie state normal school was the principal speaker. He made the point that "there has been a change from the listening school to the working school. With this change of conception the school is not thought of as a cultural convention, but as a work shop. We have gone from the question and answer method. Today it is imperative that the school provide opportunity where that which is taught may function. Shops, kitchens and laboratories are a proper place under trained supervision for this work."

—The new school at Atlanta, Indiana, was opened with song and oratory. The dedicatory address was made by John F. Haines, ex-superintendent of Hamilton County. Two minute talks followed which were made by school officials and representatives of civic bodies.

—The new high school at Llano, Texas, was opened with talks by Wilburn Oatman, secretary of the school board; W. B. Collins, representative of the Business Men's Club; Will Moore, representative of the chamber of commerce; Mrs. T. W. Norton, representative of the P.-T. A., and M. C. Wilkes, representative of the school board. Superintendent T. W. Levy delivered the dedicatory address.

—The new Marshall road school in Moon Township, near Beaver, Pa., was opened with a dedicatory program. Supt. David C. Locke and members of the board participated. The principal address was delivered by J. Lenwood Eisenberg, principal of the Slippery Rock state normal school.

—The feature of the dedicatory exercises at the opening of the new Pettibone school at Hannibal, Mo., was an address by Stratton D. Brooks of the University of Missouri.

School Board Journal

DIRECTORY OF EQUIPMENT AND SUPPLIES

The names given below are those of the leading and most reliable Manufacturers, Publishers and Dealers in the United States. None other can receive a place in this Directory. Everything required in or about a schoolhouse may be secured promptly and at the lowest market price by ordering from these Firms.

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SASH, VENTILATING
Detroit Steel Products Company

SAWS—CIRCULAR, BAND
J. D. Wallace & Co.

SCIENTIFIC APPARATUS
Rowles Co., E. W. A.

SCREENS—PICTURE
Trans-Lux Daylight Picture Screen Corp.

SCRUBBING EQUIPMENT
Finnell System, The

SHOWERS
Clow & Sons, James B.
Hoffmann & Billings Mfg. Co.

SIRENS
Federal Electric Company, The

SKYLIGHTS—METAL
Lupton's Sons Co., David
Milwaukee Corrugating Co.

SPRAY-PAINTING EQUIPMENT
DeVilbiss Mfg. Co., The

STAGE EQUIP. AND SCENERY
Jackson Corp., A. P.
Kansas City Scenic Co.
Novelty Scenic Studios
Tiffin Scenic Studios
Twin City Scenic Company
Volland Scenic Studios, Inc.

STAIR TREADS
Alberene Stone Company
American Abrasive Metals Co.
Norton Company
Safety Stair Tread Co., The
Stedman Products Co.

STATIONERS
Blair Company, J. C.

STEEL CASINGS—Doors, Windows
Milwaukee Corrugating Company

STEEL JOISTS
Truscon Steel Company

STEEL SASHES
Detroit Steel Products Company
Lupton's Sons, David

STEEL STORAGE CABINETS
Durabilt Steel Locker Co.
Medart Mfg. Co., Fred

STEEL WINDOWS
Detroit Steel Products Company
Lupton's Sons Co., David

STOOLS, STEEL
Angle Steel Stool Company

SWEEPING COMPOUNDS
Robertson Products Co., Theo. B.

TABLES
Derby & Company, Inc., P.
Gunn Furniture Company
Hamilton Mfg. Co., The
Mutschler Brothers Company
Rinehimer Bros. Mfg. Co.

TABLETS
American Tablet & Stationery Co.
Blair Company, J. C.

TALKING MACHINES
Victor Talking Machine Co.

TEACHER AGENCIES
Natl. Assn. of Teacher Agencies
Teacher Agencies Directory

TELEPHONE SYSTEMS
Federal Electric Co., The
Federal Tel. & Tel. Co.
Western Electric Company

TEMPERATURE REGULATION
Buffalo Forge Company
Johnson Service Company
National Regulator Company

THERMOMETERS
Wilder-Pike Thermometer Co.

TOILET PAPER AND FIXTURES
A. P. W. Paper Company
Bermes Company, Daniel
National Paper Products Co.
Palmer Company, The
Robertson Products Co., Theo. B.

TOILET PARTITIONS
Clow & Sons, James B.
Mills Company, The
Sanymetal Products Company
Structural Slate Company
Vitrolite Company
Weis Mfg. Co., Henry

TOWELS
A. P. W. Paper Company
Brown Company
National Paper Products Co.
Palmer Co., The
Robertson Products Co., Theo. B.

TYPEWRITERS
Remington Typewriter Co.
Underwood Typewriter Company

TYPEWRITER SUPPLIES
Remington Typewriter Company

VACUUM CLEANING SYSTEMS
Spencer Turbine Company, The
Western Electric Company

VACUUM PUMPS
Nash Engineering Company

VALVES—FITTINGS
Bowlus Manufacturing Co., The
Clow & Sons, James B.

VARNISHES
Valentine & Company

VENTILATING SYSTEMS
American Foundry & Furnace Co.
Bayley Mfg. Company
Buckeye Blower Company
Buffalo Forge Company
Dunham Company, C. A.
Healy-Ruff Company
Milwaukee Corrugating Co.
Nelson Corp., The Herman
Nesbitt, Inc., John J.
Peerless Unit Vent. Co., Inc.

VENTILATORS
Buffalo Forge Company
Globe Ventilator Company
Knowles Mushroom Ventilator Co.
Lupton's Sons Co., David
Milwaukee Corrugating Co.

VENTILATORS-WATER CLOSETS
Bowlus Manufacturing Co., The

VOCATIONAL EQUIPMENT
Buffalo Forge Company
Christiansen, C.
Columbia School Supply Co.
Sheldon & Company, E. H.
Wallace & Co., J. D.

WAINSCOTING
Stedman Products Co.

WARDROBES
K-M Supply Company
Wilson Corp., Jas. G.

WASTE PAPER BASKETS
Erie Art Metal Company
National Vulcanized Fibre Co.

WATERPROOFING
Obelisk Waterproofing Co., The

WATER PURIFIERS
Clow & Sons, Jas. B. (R. U. V.)
R. U. V. Company, The

WATER SYSTEMS
Myers & Bros. Co., F. E.

WEATHERSTRIPS
Athey Company, The
Chamberlin Metal Weatherstrip Co.
Monarch Metal Products Co.

WINDOWS—ADJUSTABLE
Austral Window Company
Detroit Steel Products Company
Lupton's Sons Co., David
Truscon Steel Company
Universal Window Company

WINDOW FIXTURES
Columbia Mills, Inc.
Williams Pivot Sash Company

WINDOW GUARDS
American Fence Construction Co.
Badger Wire & Iron Works
Logan Co. (Formerly Dow Co.)
Stewart Iron Works Co., The

WINDOWS—REVERSIBLE
Detroit Steel Products Company

WINDOW SHADE CLOTH
Columbia Mills, Inc.
Western Shade Cloth Company

WINDOW SHADES
Aeroshade Company
Athey Company
Columbia Mills, Inc.
Draper Shade Co., Luther O.
Maxwell & Co., S. A.
Ordinator Company
Steele Mfg. Co., Oliver C.
Wagner Awning & Mfg. Co., The
Western Shade Cloth Company

WINDOW SHADE HOLDERS
Allen Shade Holder Co., The

WINDOW SHADE ROLLERS
Columbia Mills, Inc.
Hartshorn Company, Stewart
Western Shade Cloth Company

WINDOWS, STEEL
Detroit Steel Products Company
Lupton's Sons Co., David

WIRE GUARDS
Badger Wire & Iron Works
Cyclone Fence Co.
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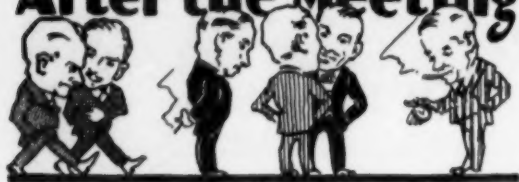
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After the Meeting



Where She Was

Johnny (excitedly)—"Ma, I just seen—"
Mother (reprovingly)—"Johnny! Where's your grammar?"

Johnny—"I was jus' tryin' t' tell ya. She's down t' the barber's gettin' her hair bobbed."—Chicago News.

Aw, Now

A few days after a farmer had put his two children to school a book agent called on him and said:

"Now that your children go to school you ought to buy them an encyclopedia."

"Buy them an encyclopedia? Hanged if I do," was his reply. "Let 'em walk like I did."—Farm Life.

A Fast Thinker

Headmaster—Well, O'Brien, what are you doing out of bed?

O'Brien—I just got out to tuck myself in, sir. —Snipes.

A Standing Joke

Lecturer: "Sedentary work tends to lessen the endurance."

Smart Student: "In other words, the more one sits, the less one can stand."

Lecturer: "Exactly, young man. And if one lies a great deal, one's standing is lost completely."

Out of His Head

The village schoolmaster had urged his boys to take up fretwork and carpentry as hobbies. He had also arranged for small prizes to be given to those who brought him the best made articles.

One day a lad produced a splendid model cabinet. "This is very nice," said the master. "Tell me, where did you obtain the pattern to work from?"

"Please, sir," answered the boy. "I made it out of my head, and I've just enough wood left to make another."

Done Every Day

Teacher: "Now, Billy, will five go into one?"

Billy: "Yes, sir."

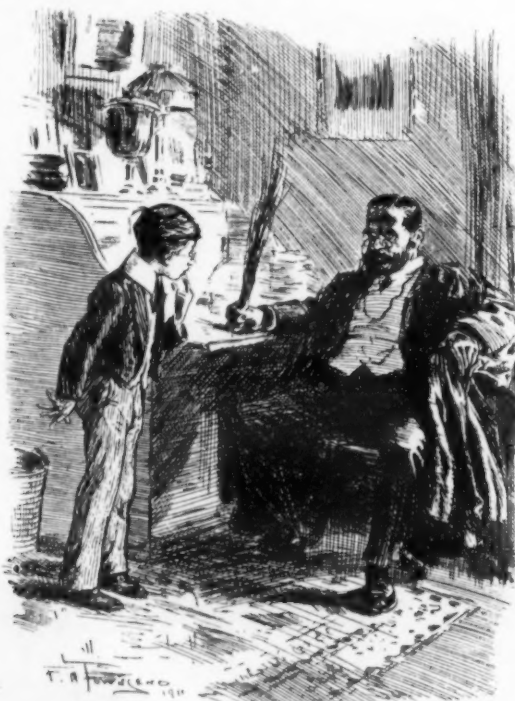
Teacher: "How do you mean, you stupid boy?"

Billy: "Well, I put five toes into one stocking every morning!"

To Be Proved

Earnest Student: "How long could I live without brains?"

Physiology Teacher: "That remains to be seen."



Smithson Junior (as the homily ends and the real business is about to start). "Please, Sir, is it sterilized?"—Punch.



COMBINE BUSINESS UNDER ONE FIRM NAME

To further facilitate the prompt handling of the business of the Standard School Equipment Company and the W. O. Jones Company, it has been decided to combine these two companies under one name. After January 1, 1926, the business of the two companies will be transacted under the name of the Standard School Equipment Co., with offices located in the Ruwe Building, 310 West Walnut St., Louisville, Ky.

The Standard School Equipment Company is a name familiar to all purchasers of school furniture, and its reputation has been built on quality, service, and cooperation with school officials to meet the demand for modern and efficient school furniture. The Jones Company, though a young organization, has proven its worth both to the distributor and the buyer in the matter of school seating. The firm is recognized as a specialist in correct seating and its products are in demand in this and foreign countries.

To meet the increasing demand and to facilitate the prompt handling of school business, it has been necessary to broaden the manufacturing and warehouse facilities. Additional patterns and improvements have been added to present well assorted lines and the Standard School Equipment Company is now in better position than ever to render prompt and efficient service to the school children of America.

TRADE PUBLICATIONS

Issues New Catalog of Microscopes. E. Leitz, Inc., of New York, N. Y., who are the manufacturers and distributors of microscopes and microscopical supplies are now distributing their new publication, Catalog IV-A—Leitz Microscopes, etc.

This new publication lists over forty new equipments never before shown in any other catalog, and in addition several hundred items of interest to instructors in science and biology are illustrated and described. It should prove of interest to every high school teacher to obtain a copy of this catalog which can be had without charge by addressing E. Leitz.

Tropical Paint Catalogue. "Tropical Maintenance Paints" is the title of an illustrated booklet issued by the Tropical Paint and Oil Company of Cleveland, Ohio. The booklet is specially interesting in that it enumerates the various uses to which the several products are put. The illustrations show factory buildings, residences, grain bins, bridges, barns, office interiors, mill floors, roofs, automobiles, home interiors, milk cans, machinery, ships, etc., etc.

The products, which cover a variety, are in each instance adapted for a specific use. Thus, aside from several kinds of house paints, there is the Elastikote which is used for industrial plants because it resists the exposure to smoke and gases. The Cementkote, for instance, is adapted as a covering for concrete, stucco, brick or stone. Again, there are metallic and iron paints, floor and roof paints, enamel paints for finer work, stack and boiler coats, and what not.

The catalog holds special interest for school officials in that several of the products apply to school buildings. The so-called Tocotone, for instance, is suited for classrooms, reading rooms, and dormitories; Toconamel is most serviceable for gymnasiums, shower rooms, swimming pools, etc., etc.

The booklet notes the progress made in the production of paints that serve all climatic conditions in decorating and protecting building surfaces, exterior and interior.

—G. & C. Merriam Co., of Springfield, Mass., recently issued a small four-page sheet, entitled Word Study. The pamphlet is devoted to the subject of spoken and written English and contains some suggestions for classroom exercises.

New Series of Floor-Tile Pattern Sheets. Of distinct interest to architects and school authorities is the new series of pattern charts on Treadlite Tile recently issued by the Bonded Floors Company. These sheets show eleven standard colors in which this resilient cork-composition tile may be obtained.

Since a Treadlite floor is laid tile-by-tile, the widest variety of design and color combination to harmonize with any room, is easily attain-

able. The possibilities are illustrated by reproductions of many patterns designed by the drafting department of the Bonded Floors Company. It is pointed out that many variations of these patterns may be designed to order.

In addition to the many pattern suggestions, a few of the most notable interiors in which Bonded Floors have been used are also shown.

School authorities and architects who wish a complete set of these attractive pattern sheets may obtain the whole series by writing to the Bonded Floors Company, Philadelphia, Pa.

Complete Tests of Kewanee Boiler for Determining Operating Characteristics. The Kewanee Boiler Co., of Kewanee, Ill., has announced the publication of a series of tests of the Kewanee smokeless boiler for determining its operating characteristics when generating at low and at high pressures, and when fired with a Winslow industrial oil burner or a Johnson oil burner, using various furnace designs.

In the tests for operating characteristics at high and at low pressure, special attention was given to the method of operation, to firing, and to grade of fuel used.

Issue Valuable Folders on Steel Lockers and Cabinets. Two very interesting folders, helpful to school executives and architects interested in building schools have been issued by the Durabilt Steel Locker Co., 400 Arnold Avenue, Aurora, Ill. These folders are illustrated with photographs of representative installations showing lockers of various types as well as additional data in the form of complete locker specifications and an impressive list of prominent school users. Copies of these folders may be obtained from the manufacturer by asking for numbers 5010 and 5011.

Better Plastering. The Milwaukee Corrugating Co., of Milwaukee, Wis., has just issued a new book entitled "Modern Modes in Better Plastering," which represents a new expression in architecture through plaster. As manufacturers of metal lath and other products essential to better plastering, the firm has had occasion to encounter many fine examples of this art, which they have presented in the hope that they may aid the prospective builder, architect and contractor in the selection of pleasing textures and color tones, while attaining permanent, fire-safe, and crackfree construction. The book illustrates and describes combination, Italian, French and English textures of plastered surfaces suitable for walls and ceilings. There are also stucco textures in Portland Cement, and some examples of ornamental plastering on metal lath for use in large buildings.

The pages of the book are full of suggestions which may be applied in the modern home. Proper adaptation of these textures to various types of architecture and to various rooms is important, but any competent plastering contractor working on a metal lath and allied product, can produce these modern American period textures.

Full information about the new ornamental plastering may be had by writing to the Milwaukee Corrugating Company, 36th and Burnham Sts., Milwaukee, Wis.

NEW TRADE PRODUCTS.

New Safety Film. The American Abrasive Metals Co., of New York City, has issued a new safety film, entitled "The Fall of Man." The picture is in two reels and was produced with the cooperation of the National Safety Council. It sets forth in a compelling and interesting manner, the seriousness of unsafe walkway surfaces in building construction, and illustrates the experience of the treasurer of a company who objected to the installation of safeguards. The film interprets to the general public, as well as to specialists interested, the facts about slipping and falling accidents as no other piece of publicity has done up to this time. It serves to arouse to action the public interested in protective measures against the causes of such accidents.

New Binocular Microscope. The Bausch & Lomb Co., of Rochester, N. Y., has announced the marketing of a new wide field binocular microscope, which is intended to meet the increasing need for a quality binocular microscope to fill the demand for stereoscopic vision, large field, long working distance, high eye point and wide range of magnification. Information and circulars available from Bausch & Lomb Co., Rochester, N. Y.